An Address
ON
ELEMENTS OF PROGNOSIS AND PRINCIPLES OF TREATMENT IN CARDIAC DISEASE.

Being the Introduction to a Discussion at the Medico-Chirurgical Society of Norwich, delivered on Nov. 1st 1898,

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MR. PRESIDENT AND GENTLEMEN, — My first duty is to attempt in some measure to express my sense of the honour you have conferred upon me by requesting me to open this discussion. When your honorary secretary communicated your flattering invitation my first feeling was that of weighty responsibility, such as might assuredly arise in the mind of anyone under the circumstances. The corner of England in which we are met is hallowed by the presence of ancient and honourable memories. When the dawn of history first pierced the gloom in which our land was shrouded and threw its light upon this portion of the island it was the scene of tragic events attendant upon the glorious struggle for freedom made by a brave race under the leadership of an heroic queen. Since then this classic region has been the stage upon which has been played many an act in our country's stirring drama; it has been the arena of numberless victories in peace no less than war. The art of healing has, amongst pacific successes, achieved here numerous triumphs. It owes much in almost every one of its branches to those who have lived and laboured, nay, who live and labour, within sight of these walls. For obvious reasons a certain amount of reticence must be observed, but you will perhaps allow me to refer to the deep debt of gratitude to those distinguished men under which medicine, as well as surgery, labours, and to give utterance to the feeling of thankfulness that they are still amongst us to aid us by their counsels and shed lustre upon our vocation. Another reason for the sense of diffidence which threatened to overcome me lies in the fact that your society has from time to time been graced by the presence of men bearing names of world-wide renown, who have at your request brought before you the results of fruitful years devoted to the pursuit of knowledge. Acquaintance with this circumstance only served to deepen my apprehension lest any oblation it might be in my power to offer should be all unworthy of the occasion. Yet in spite of these weighty considerations the invitation vouchsafed by your secretary was so cordial in its tone, so instinct with that spirit of comradeship which has contributed so much to the solidarity of our profession, that it seemed my bounden duty to cast aside my scruples and respond to your summons as the most suitable manner of acknowledging your kindness.

The subject which you have requested me to bring before you to-night is one of such wide import, and at the same time so full of vexed questions, as to be of more than ordinary difficulty. It is, moreover, possible that it may be regarded as almost, if not quite, worn threadbare; it is, in truth, a theme often discoursed upon, yet with the onward progress of knowledge it is one that allows reconsideration from time to time. The views we hold must of necessity alter with the advent of new facts from nature. As Goethe says:[1]

> "Grau, theurer Freund, ist alle Theorie,
> Und grün des Lebens goldner Baum."

The title which has been adopted involves the consideration of what is really but one subject regarded from two different points of view. It is, in truth, absolutely impossible to sever prognosis from treatment. The close association between the gift of foreseeing events and the ability to modify their course is well recognised even amongst those who have but little direct connexion with the art of healing. Many of you will, no doubt, remember the pathetic lament put in the mouth of the good Dr. Chassaigne by one of the greatest writers of the age[2]: "Moi qu'on imagine si savant, si armé contre la mort, je n'y ai rien compris, je n'ai rien pu, pas même prolonger d'une heure la vie de ma fille. Et ma femme, que j'ai trouvée froide dans son lit, lorsqu'elle s'était couchée la veille mieux portante et si gaie, est-ce que j'ai été capable seulement de prévoir ce qu'il aurait fallu faire? ..... Non, non!" Here we have from the pen of one of the closest observers of men and things the clearest recognition of the interdependence of foresight and action. It is perfectly true that a contrary opinion has at times been urged. One of the greatest teachers of modern times has, for instance, stated[3] that "the *prognosis* (or foreknowledge) of the course and event of disease has but little connexion with the promotion of the art of healing." This is assuredly a hard saying to have fallen from the lips of the eloquent Watson in those lectures which are still the object of our admiration. In early ages, and amongst robust peoples, the mind of man has ever sought with hungry longing to peer into the gloom enshrouding the future. It has been somewhat otherwise when a later phase of progress has been reached; at such a stage there has often been no yearning to raise the veil hiding coming events. The Augustan poet deftly handles this shrinking in many a lyric gem, but nowhere perhaps does he more gracefully touch the subject than when he sings:—[4]

> "Prudens futuri temporis exitum
> Caliginosa nocte premit Deus,
> Ridetque, si mortalis ultra
> Fas trepidat."

It is assuredly somewhat less than scientific to recoil before the problems which are connected with the future or to belittle the influence upon action which foreknowledge must exert. If it be true of any branch of knowledge, it is most certainly true of medicine, as Carlyle says,[5] that "the Present holds in it both the whole Past and the whole Future"; "the Future," also, as the same great writer remarks in another place,[6] "is not dissevered from the Past, but based continually on it." It is scarcely possible to imagine anyone who does not attempt to solve at once problems connected with the origin and the result of disease, for, as Hume puts it,[7] "determined by custom to transfer the past to the future in all our inferences," we cannot avoid projecting the results of previous experience into the consideration of coming possibilities. To one who has been trained, as all of us have been, to observe the sequence and event of disease, its probable terminations may, in most instances, be with considerable certainty predicted. "To foreshow these," as your great fellow-townsman, Sir Thomas Browne, remarks in regard to another subject,[8] "is not prophecy but prognostication." It is therefore incumbent upon the physician to remember the adage of the old playwright:[9]

> "Istuc est sapere, non quod ante pedes modo'st
> Videre: sed etiam illa, quæ futura sunt,
> Prospicere."

An engrossing attention to the conditions and circumstances of the moment is not enough. The "mens provida rerum futurarum" of the Roman orator[10] is of a value in medicine, as in other walks of life, that cannot be over-estimated. No doubt the "aliquid in animis præsagiens atque divinum,"[11] of the same author is an inherent faculty, yet it is one that can be successfully cultivated. It is the duty of everyone who professes the art of healing to extend it, for "he will manage the case best," as the Father of Medicine puts it,[12] "who has foreseen what is to happen from the present state of matters." While it is necessary for the purpose of systematic discussion to consider prognosis and treatment separately, it must ever be borne in mind that the two go hand in hand—that, in truth, to be forewarned is to be forearmed.

The elements of prognosis as regards heart disease have in recent times received much attention. The observations of Clark,[13] Pye-Smith,[14] and Broadbent[15] have brought, as it

[1] Goethe, Faust, I. Theil.

[2] Zola: Lourdes, Journée ii., Chapter iii.
[3] Watson: Lectures on the Principles and Practice of Physic, Lecture viii.
[4] Horace: Carmina, Lib. III., Carm. xxix.
[5] Carlyle: Past and Present, Book I., Chap. vi.
[6] Ibid., Op. cit., Book IV., Chapter iii.
[7] Hume's Essays, xxxix., Sect. vi. 7a.
[8] Browne: Religio Medici, Sect. xvii.
[9] Terence: Adelphi, Act iii., Sc. iii.
[10] Cicero: De Divinatione, Lib. ii., Sect. lvii.
[11] Ibid., Op. cit., Lib. i., Sect. xxxviii.
[12] Hippocrates: Adams's translation, Prognostics, i.
[13] Clark: Brit. Med. Jour., vol. i., 1887.
[14] Pye-Smith: Transactions of the Hunterian Society, 1891.
[15] Broadbent: Heart Disease, Chapters vi. and vii.

were, to a focus many of the views of modern time, while Duckworth in his interesting lectures has also dealt with the subject. The last-mentioned author writes as follows:[16] "The principles on which a prognosis is framed in respect of valvular disease are now well understood. All depends on the constitutional powers, habits, and environment as regards the integrity and nutrition of the cardiac muscular fibres." There is no doubt a large element of truth in these remarks, but it is by no means easy, as will be shown shortly, to arrive at the precise conception which he speaks of with reference to the muscular wall of the heart. If we proceed analytically to consider the various factors upon which a forecast of the future must rest we shall find that there are certain agencies which may all be classed as *general* and other influences to be termed *special*. Let us, in the first place, consider the former.

Firmly believing, as most of us do, in the great doctrine of inheritance we shall find in the past history of the family determining influences which, acting upon the germ plasm, provide for greater or less resistance to the forces of dissolution. That cardiac lesions are hereditary has long been known and our conceptions have been rendered clearer by the work of Leube[17] and Pierson.[18] A glance, therefore, at the family history will in every instance be of great value in framing the prognosis. The past events of individual life without doubt exercise vast influence over the course and event of disease. Previous illness, over-exertion, excess,—all these factors are potent for evil. The great oriental doctrine of Karma, is singularly applicable to the effects of former actions upon the individual. The age and sex of the patient must be taken into account. Affections which begin in tender years are much more serious in their results than those which occur after the organism has attained a riper growth. The influence of sex, moreover, is of far-reaching importance in heart affections. It is universally known, for example, that aortic affections are more particularly found in men, while mitral lesions obtain principally among women. It is quite as generally recognised that the mode of life and the events incidental to either sex are influential as regards the course of a cardiac lesion. The occupation and surroundings need not detain us; their influence for good or ill is so far-reaching as to require but little comment. These general considerations may be summed up by stating that when, from the facts of family tendency or personal history, individual conditions or special environment, the organism is so conditioned as to be in the possession of healthy structures and the performance of healthy functions the prognosis will be by so much the better than if structure and function tend to be rendered faulty by any departure from favourable conditions.

The special factors in reaching a definite prognosis are manifold, but confining ourselves to cardiac lesions and excluding affections of the peripheral circulation we shall be able to arrange them into groups. In lesions of the pericardium interference with the circulation ensues from one or more of three agencies. The presence of an acute process may, by extension to the myocardium, produce a paralytic myocarditis and in this way diminish the cardiac energy. It is fortunately averted by the presence of the fibrinous deposit which, as was pointed out by the eloquent Hilton[19] in his classical lectures on "Rest and Pain," acts as a protection. There may also be the presence of adhesions, as shown by Morgagni,[20] Kennedy,[21] and Wilks,[22] which interfere with the free movement of the cardiac muscle. There is, further, the presence of an excessive amount of serous secretion which, as clearly grasped more than two centuries ago by the great Lower[23] and physiologically explained by Cohnheim[24] and Starling,[25] interferes with diastolic aspiration. Physical examination will in almost every instance reveal with tolerable certainty the cause of the interference. The feebleness of the sounds and the waning yet frequent pulse suffice to diagnose myocarditis arising by extension. The indrawing of the interspaces around the apex beat and the diastolic rebound will give a diagnosis of adhesions, while the distant character of the cardiac sounds and the characteristic enlargement of the dulness on percussion ought to prove that an excessive accumulation of serum is present in the sac.

Endocardial lesions may be, as in the case of most other diseases, acute or chronic. Modern pathological research has shown us that all forms of acute endocardial lesions are due to, or associated with, the presence of micro-organisms, but, whether from differences in the virulence of these infective agents or from the varying powers of resistance possessed by the tissues, the effects of these lesions are very diverse, and it at present seems extremely difficult to foresee the probable termination in any acute endocarditis. Many a case which in an early phase appeared full of hope suddenly and unexpectedly undergoes an unfavourable change and proceeds to a fatal termination, while the converse, although not so frequently encountered, also occurs.

When we turn to the chronic affections of the orifices and their cusps we find, on the whole, a general consensus of opinion as regards the relative dangers attendant upon lesions of the different valves. This agreement, however, is subject to a few individual variations. Speaking generally, it may safely be assumed that aortic incompetence is the most dangerous, and aortic obstruction the least serious, of valvular affections, while mitral lesions occupy an intermediate position, mitral obstruction being rather more formidable than mitral incompetence. The reason for the different degrees of danger presented by these lesions may be summed up by stating that whereas aortic incompetence gives rise to considerable oscillations of pressure, and is at the same time apt to be attended by coronary lesions, mitral affections lead to symptoms of backward pressure upon the lungs, and secondly upon the right side of the heart and the systemic veins. We know from the work of Cohnheim[26] and Rosenbach[27] that artificial valvular lesions do not in themselves cause any loss of mean blood-pressure or disturbance of the equilibrium of the circulation, and it can only, therefore, be as the result of continued interference with the mechanism of the heart and prolonged call upon its reserve of energy that valvular lesions produce their evil effects. The results produced by those lesions are almost entirely dependent upon the state of the cardiac muscle and they must be considered in dealing with the next factor.

The condition of the muscular wall of the heart is the predominant factor in prognosis. Whether arising primarily in itself or secondarily as the result of pericardial or endocardial lesions, any disturbance of normal conditions in the myocardium brings about an alteration of the relative blood-pressure in different parts of the circulation. The nutrition of the heart muscle depends in the first place upon an adequate supply of healthy blood. The maintenance of normal structure in the heart involves the integrity of every bodily function, but, above all, the performance of digestive and metabolic processes in such a satisfactory manner as to produce blood of adequate quality. This must, in the next place, be supplied to the heart in sufficient quantity. Two great points are to be considered here. The coronary arteries, whose relation to the heart was first shown by Morgagni in his earliest work,[28] may be of a calibre too small for the supply of sufficient blood to the heart muscle. This undeniably takes place in sclerotic and atheromatous changes. It is scarcely necessary to refer to the frequent association of coronarteritis and interstitial myocarditis, or so-called fibroid degeneration. On the other hand, when the general blood pressure in the arterial system is too low, and when there is a tendency to venous remora, the heart is apt to participate in the general stagnation, and it undergoes the chronic fibroid degeneration first described in this connexion by Jenner.[29] The cardiac muscle may therefore suffer primarily or secondarily.

The practical question now arises, if the whole prognosis and treatment of cardiac affections depend upon the condition of the cardiac muscle, how is this to be gauged? Do our methods of physical examination furnish us with results of sufficient accuracy to give the means of reliable forecast and adequate management? The investigation of the pulse

[16] The Sequels of Disease, p. 166.
[17] Leube: Deutsches Archiv für Klinische Medicin,'1880.
[18] Pierson: Jahresbericht der Gesellschaft für Natur- und Heilkunde in Dresden, 1880.
[19] Hilton: Rest and Pain, Lecture XI.
[20] Morgagni: De Sedibus et Causis Morborum, tom. i.
[21] Kennedy: Edinburgh Medical Journal, 1858.
[22] Wilks: Guy's Hospital Reports, 1871.
[23] Lower: Tractatus de Corde, cap. ii.
[24] Cohnheim: Lectures on General Pathology, sect. 1.
[25] Starling: THE LANCET, 1897, vol. i., p. 569, et seq.
[26] Cohnheim: Op. cit., Sec. I.
[27] Rosenbach: Archiv für experimentelle Pathologie und Pharmakologie, 1878.
[28] Adversaria Anatomica Omnia, Advers. v., Animad. xxv.
[29] Jenner: Transactions of the Royal Medical and Chirurgical Society, 1860.

reveals, without doubt, most important facts as regards arterial pressure, yet it is by no means easy to determine the extent to which the different factors involved in the maintenance of the pressure are respectively engaged. It is unnecessary to mention that no instrument yet devised for recording the movements of the pulse is of the least importance from the point of view of prognosis. No form of sphygmograph is of the slightest assistance, and the educated finger can alone be depended upon in attempting to foretell the probable course of events. It is otherwise with regard to certain of the modern instruments intended to measure the arterial pressure. The sphygmomanometer of von Basch[30] and the sphygmodynamometer of Oliver[31] are both of importance in this respect. My own observations with these instruments have been scanty, but for some time the sphygmometer of Hill and Barnard[32] has been in constant use in my wards. The general results obtained by means of it show that in healthy young men the pressure has usually been equal to from 105 to 135 mm. Hg., while in failing compensation it may be as low as 50 or 60 mm. Hg. It is by no means certain that these figures give any real information as regards the energy of the cardiac muscle. There may, for example, be a high arterial pressure, notwithstanding a feeble heart, simply because the peripheral resistance is excessive.

The energy of the systole and the intensity of the cardiac sounds or murmurs must of necessity be taken into account. These are subject to fluctuations according to the condition of the parietes, and this consideration will necessarily lead to the employment of great care in attempting an estimation of them. The cardiograph is for the purpose now under discussion of even less utility than the sphygmograph. Many attempts have been made to estimate the cardiac energy by the investigation of the heart sounds by means of the microphone. This is a subject which for some time engaged my earnest attention, but thus far no results of the slightest value have been attained. Recently it occurred to me to inquire whether the electro-motive force generated by the heart might furnish any prognostic indications. We know from the investigations of Engelmann,[33] Marchand,[34] Burdon Sanderson and Page,[35] and more recently of Waller,[36] that the movements of the heart are accompanied by electric variations which are easy to demonstrate. An electrode made of zinc, covered by chamois leather and moistened with brine, is applied to the front of the chest near the apex of the heart; one or two fingers of the right hand are placed in a vessel containing salt solution and the electrode and brine are connected with a capillary electrometer. The mercury in the electrometer is seen to move with a sudden throb immediately before each beat of the heart, the time interval usually being about 0·015″. When observed with a high power of the microscope in order to ascertain the extent of this electric variation it occurred to me that a micrometer might be employed, and by its means it has been possible to determine that there are considerable variations in the amount of electro-motive changes. The extent of the movements in the electrometer may be recorded by photography, as has been so beautifully done in Waller's experiments, or the movements may be shown graphically by the use of the projection microscope. There are certain difficulties in regard to this subject. In the first place, it cannot be assumed as absolutely certain that the electro-motive changes bear any constant relation to the amount of muscular force; and, in the next place, it will be readily granted that there are without doubt large possibilities of error in consequence of differences in conduction. My investigations upon this subject are as yet only in their infancy, but it seems to me that it is of sufficient interest to bring before you to-night. Although there are but few definite facts to submit for your consideration it may be stated that while in certain individuals with a feeble circulation the variation observed by the micrometer does not exceed one micro-millimetre, in others the extent of movement rises to as much as three.

The size of the heart is a factor of some importance. If it be found by palpation and percussion to be considerably enlarged, although feeble, thereby showing a condition in which dilatation is the principal state, it necessarily leads to apprehensive conclusions. If, on the other hand, it is enlarged but acting powerfully, pointing to the presence of hypertrophy, it again aids the observer by warranting a more hopeful forecast of the future. In this place it may be well to venture upon a note of warning. During the last few years great stress has been placed upon the results of percussion, and enormous changes in the size of the organ have been demonstrated both by percussion and by the employment of radiography. Such statements have been shown by Poore[37] on mathematical grounds to rest on conceptions which can scarcely satisfy the reason of anyone trained in the methods of philosophic doubt. These changes appear, as is urged by A. Morison,[38] to be more the result of apparent diminution in consequence of altered position and of modified form than of real alteration in size.

The condition of the heart muscle can, according to our present lights and our present methods, only be estimated with any approach to exactness by comparing the results of the investigation of the pulse and the examination of the heart. In addition to the results obtained by physical examination of the chest we find in many other symptoms evidence of considerable value. The entire range of effects produced by backward pressure—the enlargement of internal organs, the catarrh of mucous membranes, the dropsy of serous membranes, and the anasarca of subcutaneous tissues—throw, as is so well known, a lurid light upon the condition of the patient. It is far from my present purpose to inflict upon you any analysis of the symptoms produced by such pathological processes; suffice it to say that the modified functions of the structures so affected, familiar as they are to everyone, are of at least as much value as the facts obtained by a rigid investigation of the chest.

To sum the entire subject of prognosis up it may be said that when the arterial pressure is good, the heart not unduly hypertrophied, and the system at large free from any appearance of disturbed equilibrium, the prognosis may be regarded as satisfactory; when the converse conditions are present it must be framed with greater reserve.

It is time to turn now to the second part of our subject—the principles of treatment. It may be premised that they are few in number. The most important object which must be kept in view is the maintenance of the blood-pressure at an adequate height; this aim involves the elevation of arterial, the diminution of venous, pressure. These effects must be produced by acting upon the heart on the one hand and upon the arterioles on the other. The condition of the blood as regards its nutrition will require attention, but in cardiac failure it is a matter of obvious difficulty to arrive at correct conclusions on this subject. As is now well known, in the most profound cyanosis the number of red blood corpuscles is enormously increased; the white blood corpuscles are also somewhat more numerous and the hæmoglobin is large in amount. Speaking generally, it may be said that 8,000,000 red blood corpuscles, 15,000 white blood corpuscles, and 120 per cent. of hæmoglobin come not infrequently under observation. That these changes are compensatory and are produced by the long life of the individual corpuscles through diminished wear and tear has been urged by myself.[39] It is, however, quite possible that they are simply caused by backward pressure as the result of stagnation. This nevertheless does not commend itself to my judgment. An easy way of solving the question would be by the comparison of arterial and venous blood if it were in any cyanotic case justifiable to perform arteriotomy. These facts are submitted to you with the view of showing how difficult it is to come to any direct conclusion with regard to the condition of the blood in respect of nutrition. By acting upon the secretory and excretory mechanism the blood may be rendered more pure, while the relative arterial and venous pressures may also tend to be approximated to the normal. It need scarcely be added that by stimulating the nervous mechanism, and in this way liberating nerve energy, very considerable benefit will accrue to the patient, through the influence which is indirectly exerted on the entire system.

In the practical application of therapeutic principles to the treatment of cardiac disease it is necessary, in the first place, to consider some general methods. Nowhere is the wholesome influence exerted by air and light better seen

[30] Von Basch: Zeitschrift für Klinische Medicin, 1880.
[31] Oliver: Edinburgh Medical Journal, 1896, vol. iv., New Series.
[32] Hill and Barnard: Brit. Med. Jour., vol. ii., 1897.
[33] Engelmann: Pflüger's Archiv, 1875, 1877, and 1878.
[34] Marchand: Ibid., 1877 and 1878.
[35] Burdon Sanderson and Page: Journal of Physiology, 1880 and 1884.
[36] Waller: Philosophical Transactions, 1889.
[37] Poore: Brit. Med. Jour., 1895, vol. ii.
[38] A. Morison: On Cardiac Failure and its Treatment, Part IV. Section vi.
[39] THE LANCET, Jan. 5th, 1895.

than in the management of circulatory disturbances. Good ventilation and such an exposure as will secure as much sunlight as may be obtained in our country must therefore be provided. In many cases it will be necessary to seek a more genial climate for the winter and spring months than our own country affords. In serious conditions the inhalation of oxygen may be of vital importance. Sufficient sleep, alternating with some gentle intellectual exercise, must in every case be ensured. The former is frequently aided, even in the gravest cases, by the use of two beds for the patient, one to be employed during the night, the other during the day. As regards mental operations, it need hardly be remarked that any brain work must be of the easiest description. The questions relating to food and drink are manifold. In a large number of cardiac conditions, characterised by the presence of dropsy, a dry diet is of the greatest value, and the use of the smallest quantity of fluid possible is helpful. There are, however, many conditions, more especially of renal inadequacy, which forbid such drastic measures and render it necessary to put the patient on fluid food. Abundant rest, accompanied by some exercise, will be of utility. In the worst cases absolute confinement to bed is necessarily imperative, but even under such circumstances exercise may be obtained. It naturally falls into three categories. There is, in the first place, purely passive exercise, which may be given by means of massage. The utility of this method cannot be overestimated. Not merely does it empty the lymphatic spaces and accelerate the return of the contents of the lymphatic and venous vessels towards the heart, but it assists the metabolic processes in those parts of the system to which it is applied. Exercise, partly passive and partly active, may be obtained by means of the resistance exercises introduced by the Schotts,[40] and described in most of the recent works on diseases of the heart. Such resistance exercises are of very considerable benefit in the treatment of cases of heart disease presenting less alarming features than those just referred to. Active exercise may be employed in a variety of ways. In serious cases the exercise must be gentle and had best be confined to walking on level ground; in those which are of less severity gentle hill-climbing will be found useful, while the use of the cycle may be safely recommended. Closely associated with this subject is the stimulation of the system through the skin by means of baths.

The treatment of heart disease by means of baths is by no means of recent introduction, inasmuch as it was advocated by Hope.[41] It is only within the last few years, however, that this method of treatment has come into popular favour, and this is due chiefly to the work of Beneke,[42] Groedel,[43] and the brothers Schott.[44] The method is carried out very thoroughly at Nauheim, on the north-east slopes of the Taunus Mountains, in the Grand Duchy of Hesse. At this charming little place a number of springs arise from a depth of nearly 600 ft. below the surface; these fall into two groups, one of which is used for internal administration and the other solely employed for baths. The springs employed for the baths have a temperature varying from 82° to 95° F. and contain from 20 to 30 parts of sodium chloride and from 2 to 3 parts of calcium chloride in 1000, along with smaller proportions of potassium, lithium, magnesium, strontium, barium, iron, manganese, zinc, bromine, and arsenic, but they also contain a very large amount of carbonic acid, amounting in weight to almost 4 parts in 1000, and by volume 1340 in 1000. As baths these springs are employed in three ways—simple brine baths, effervescing baths, and effervescing current baths. Of these the first are employed at a strength of 15 per 1000 of sodium chloride and 1 per cent. of calcium chloride at a temperature of 94° or 95°, the carbonic acid being previously allowed to escape. The strength is gradually increased day by day and the temperature modified according to circumstances. The effervescing baths contain the full amount of salts and gas, the temperature being varied to suit individual requirements. The effervescing current baths are similar to the last mentioned in all respects save one, the water being allowed to stream into and out of the baths while it is being used. The Nauheim baths may be closely imitated without difficulty by means of Sandow's tablets. There cannot be the least doubt as to the powerful action of these baths under physiological conditions or as to their beneficial effects in some morbid states. The simple saline baths seem to have no influence beyond that of ordinary water at the temperature which is employed; that is to say, when the temperature is high the pulse becomes somewhat more frequent and more bounding, without any perceptible change in the condition of the heart. The effervescing baths in health cause a fall of the pulse-rate, an increase in its volume and an elevation of its pressure. Similar effects are produced in many conditions of disease. The effervescing current baths give rise to analogous effects, which, however, are somewhat more marked. So far all are agreed, but a considerable amount of controversy has raged round the size of the heart on percussion. My own observations, both at Nauheim and by means of imitations of the baths in this country, have convinced me that the apparent size of the heart is reduced by means of these baths, but that this apparent reduction of the cardiac dulness is produced by any actual diminution in the size of the organ has yet to be proved. It therefore seems to me that the suggestion of A. Morison,[45] previously referred to, is correct.

While there are differences of opinion as regard the results of these baths upon the apparent size of the heart, there can be none in respect of the beneficial results which accrue from the Nauheim treatment in suitable cases. Instances of cardiac weakness and dilatation, whether from depression, general disease, or over-strain, are certainly those which gain most. Many other conditions, however, such as cases of approaching breakdown in middle life and early disturbances of compensation in valvular disease, are also much improved by a course of baths. The greatest care must be employed in the selection of suitable cases. There can be no doubt that in many serious disturbances they will do more harm than good. The mode of action of these baths has been variously explained. By Schott,[46] for example, it has been asserted that increased tissue change is caused by a greater power of absorbing oxygen by the cells, possibly from the passage of gas through the skin, so as to come in contact with the tissues and stimulate the arterioles and capillaries. He also allows that there is probably a reflex stimulation of the heart producing more complete and thorough contraction. Broadbent[47] is of opinion that there is more probably a physiological dilatation of the capillaries in the skin so that the resistance to the blood is lessened and the left ventricle is unable to complete its systole. A. Morison[48] regards the action as being mostly reflex, but he is of opinion that the mere act of bathing is to be regarded as a form of gymnastics with a certain amount of influence over the circulation. With these views I practically agree.

Besides these various measures there are to be considered the special medicinal remedies which act directly upon the circulation. Almost all drugs which directly affect the heart and blood-vessels are to be found in Schmiedeberg's great group of nerve and muscle poisons. These various substances produce effects which vary very greatly, both in regard to the doses which are given and the time which elapses after administration. Many of them act as stimulants or tonics in small doses, while others act as sedatives or depressants in larger amounts. Another important consideration is that cardiac stimulants must be distinguished from circulatory stimulants. Many drugs excite the activity of the heart while producing no influence on the rapidity of the circulation; others can bring about acceleration of the blood-flow while producing no effects of an exciting kind upon the heart. As it is, therefore, difficult to classify these poisons from a purely physiological standpoint it is more convenient to arrange them in pharmacological groups. The alcohol group is of the greatest importance in the treatment of circulatory affections. Most of the drugs belonging to it produce in moderate doses dilatation of the arterioles and acceleration of the heart, while in larger quantities they bring about depression of all the great vital centres, including those controlling the circulation. Whether acting directly upon the heart muscle or indirectly through the nervous mechanism ethyl alcohol in almost any of its numberless forms acts both as a stimulant and as a food.

[40] A. and T. Schott: Berliner Klinische Wochenschrift, 1884.
[41] Hope: Diseases of the Heart and Great Vessels, p. 282.
[42] Beneke: Deutsche Klinik, 1863.
[43] Groedel: Berliner Klinische Wochenschrift, 1878.
[44] A. and T. Schott, loc. cit.
[45] A. Morison: Loc. cit.
[46] Schott: The Mineral Waters of Nauheim, 1894.
[47] Broadbent: Heart Disease, Chapter viii.
[48] A. Morison: Op. cit., Part IV., Section iii.

Ether is a powerful stimulant while chloroform is a most useful sedative, and chloral, although powerfully depressant on account of the large amount of chlorine in the molecule, is of importance as a hypnotic. Paraldehyde, sulphonal, and trional are the hypnotics belonging to this group which are most worthy of confidence. Closely associated with the alcohol group is that of the nitrites. These drugs, which owe their introduction to Lauder Brunton, are of world-wide renown for the purpose of reducing blood-pressure by dilatation of the arterioles. The ammonia group contains several drugs which have long been employed as stimulants, but modern research has not adequately explained this empirical conception. Carbonate of ammonium and its preparations certainly raise the blood-pressure. Such drugs are therefore of frequent employment, especially in combination with cardiac tonics. The camphor group contains several remedies which have a powerful effect in stimulating the cardiac muscle, and remedies belonging to this class are accordingly useful aids in the management of many circulatory conditions. Substances belonging to the caffeine group cause some vascular stimulation and inasmuch as they produce a change in the muscle curve they may influence the heart. This, however, has not been proved. Being direct renal stimulants they are of much importance when dropsy is present. Lastly, that most valuable class of drugs containing digitalis and strophanthus, besides many which from their inferior value require no mention, must be considered. What has to be said of this group really belongs to the two drugs named, seeing that they form the type of the class. The singular "type" is used, not "types"; the reason of this is that the drugs are practically identical in their effects. Diminution of pulse-rate, increase of cardiac energy, contraction of arterial walls, and consequent elevation of pressure result from both. There may be somewhat less arterial contraction in the case of strophanthus; it is, however, doubtful, and anyhow it is but a question of degree. In their results upon cases of disease it seems to me that strophanthus is to be preferred when there is necessity for rapid action and where the digestive system is irritable. On the other hand, digitalis is more valuable when the kidneys are not acting adequately and where œdema is present. In the latter condition the infusion acts most usefully, probably from containing a relatively large amount of digitonin. Into the mode of action of these drugs, whether they exert their influence by means of the nervous system or directly by stimulating the cardiac and arterial muscular structures, it is not expedient to enter. Suffice it to say that this point has not yet been cleared up.

In addition to all these means there are such important measures as evacuation, in which the employment of mercury is of prime importance, blood-letting, local and general—a method too much neglected—removal of fluid, whether by aspiration or by Southey's tubes, and counter-irritation by various agents. Each and all of these methods may be of the highest value. In recent years the treatment of cardiac affections has owed some brilliant results to serum-therapy. As has already been mentioned, micro-organisms are present in all cases of acute endocarditis, and it follows that the hard-and-fast line which used to be drawn between ulcerative or malignant and simple or verrucose endocarditis is no longer valid in its former meaning — in other words, the distinction is now clinical, not pathological. In certain infective cases cultures of the blood have revealed the presence of organisms, but, on the other hand, instances equally grave have given negative bacteriological results. The interesting point is this, that whether there has been a positive or a negative result on cultivation the employment of anti-streptococcic serum has in cases which would hitherto have been hopeless produced a fortunate result. An example of this condition was recently brought under my notice by one of my friends, who kindly asked me to see the patient with him. Although presenting clinical features strongly suggestive of infective endocarditis the blood was sterile, yet the use of Behring's serum was followed by rapid improvement leading to recovery.

Passing the various acute diseases by without further reference let me bring these somewhat rambling remarks to a termination by grouping the different varieties of chronic heart-disease into two classes according as the lesion has been adequately compensated or the circulation manifests disturbance of its equilibrium. In the former group, comprising the less serious cases of heart disease, *nimia diligentia* must be our motto; the "masterly inactivity" of a great statesman finds here a suitable field. Watchful care must no doubt be exercised in respect of all the general surroundings of the patient, that have already been examined, but the time of action has not arrived. While employing every means to ensure environment and occupation suitable for the conditions it will probably seem advisable to prevent the patient becoming a valetudinarian. It is far otherwise when there is inadequate compensation and the distressing features of failing circulation develop. Under such circumstances every measure calculated to strengthen the heart, to elevate arterial pressure, to aërate the blood, to remove excessive fluid, to improve the nutrition, and to stimulate the nervous system must be invoked. To do this is a task that will often tax all the energies of the physician and call forth all his ingenuity. He will, however, frequently find his reward in the recovery of some one,

> "Who scarce had pluck'd his flickering life again
> From halfway down the shadow of the grave,"[49]

and he will find it, in the storm and stress of circumstances, to be a solace to follow the poet's advice:—

> "Æquam memento rebus in arduis
> Servare mentem."[50]

Inaugural Address

ON

SOME RUDIMENTS OF INTESTINAL SURGERY.

Delivered before the Midland Medical Society at Birmingham on Oct. 20th, 1898,

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GENTLEMEN,—Anyone who still persists—on such an occasion as the present—in giving exclusive prominence to abdominal surgery cannot but be reminded of the fable of Æsop which relates to the "Belly and the Members." It will be recollected that in that parable the members complained that their interests were not duly recognised, and that the pompous and overbearing attitude assumed by the belly was inconsistent with its intrinsic importance and with the rights and privileges which the members claimed as portions of their body politic. So far as the corporation of medicine is concerned it may be argued that enough for the present has been said about the abdomen and its concerns, and that it is time we returned to the needs of the extremities. In begging, however, that you will allow me to limit my remarks this evening to that perhaps over-exalted subject, abdominal surgery, I may urge that the extra-visceral parts of the body have had an almost exclusive monopoly of surgical attention for many centuries and that Æsop—who was ignorant of even the fashionable exploratory incision—decided his fictitious quarrel in favour of the belly. I would wish to deal solely with so much of this great subject as concerns the intestines and with such details in that department as may be of some present interest.

As a preliminary and introductory matter I may assume that all surgeons who have concerned themselves with intestinal surgery must be growing sceptical in regard to the alimentary canal of man and its fitness for its reputed functions, and must be in doubt whether it deserves the encomiums which have been lavished upon it as an efficient work of nature. The actual body of man seems to have changed but little since his first appearance on the earth, but the environment of the man has changed in the meantime to an extent beyond all reasonable conception. Now it is a question if the alimentary canal has adapted itself to this latter change. It is a question if the human digestive organs have progressed with the times and have advanced with that progress of events which has raised man from a clever brute to a cultured epicurean. It is a question, indeed, if our stomach and intestines are, to use a common expression, quite up to date or are quite adapted to the

[49] Tennyson: Idylls o the King.
[50] Horace: Carmina, Lib 'II., Carm. iii.

enlightened individual they serve. The naked cave man scrambled out his life some thousands of years ago and was contemporary with the long extinct cave bear and cave hyæna, yet his skeleton differs in no essential from the skeleton of the modern dandy who, arrayed as Solomon in all his glory, suns himself to-day in Rotten-row. A nineteenth-century public dinner would probably have confined the cave man to his cave for many sorrowful and painful days and if the modern alderman had to dine on badly cooked hyæna meat torn from the bone by his own incisor teeth, he would possibly find himself in a few days upon the operating table. Yet the same alimentary canal has had to do duty for the two specimens of humanity and for the two types of feast. It is no matter of wonder that it has failed somewhat in the herculean effort of adaptation. That it has not wholly succeeded is evident by many signs. If the cave man could return to earth and could travel by rail from London to Birmingham he would notice that almost every field by the way had erected in it an isolated wooden hoarding on which was painted a conspicuous inscription. From a certain repetition of these inscriptions he might gather that the painted words were incentives to religious fervour or that they were patriotic expressions calling the traveller to deeds of heroism and virtue. He would be pained to learn that they were merely advertisements of aperient pills.

It would appear, indeed, that these common objects by the traveller's way show that the cry of the people is not so much for light and leading as for laxatives. It is a curious comment upon the unfitness of the alimentary canal for its simplest duties that the animal, the vegetable, and the mineral kingdoms have been ransacked to provide incentives to peristaltic movement. The discovery of a new laxative would excite more public interest than the discovery of a new planet, and the habit of aperient drinking must rank in the annals of intemperance as but little less enthralling than the vice of the tippler. A further suggestion that the present type of alimentary canal is becoming obsolete is provided by the fact that in the literature of medicine a singularly prominent place is given to diseases of the stomach and intestines. The name of these maladies is Legion and in certain sections of the community dyspepsia can hardly be regarded as an abnormal condition. It is safe to say that among the so-called cultured classes one man in ten is "on a diet," and one woman in ten is "living on aperients." As for the liver it retains a place in our economy as a thing compounded of mystery, meddlesomeness and inefficiency. While some patients speak of their livers with a certain amount of awe, others refer to that organ with a degree of familiarity which is almost irreverent. With many the liver is a kind of fetish which has to be humoured and appeased, and no appeal to a medical man is more earnest than the prayer for "something to touch the liver." By others the liver is spoken of as if it were a piece of defective machinery and is alluded to in terms which would be suitably applied to a motor car or a cheap watch. It is complained that the organ is always "out of order," that it "will not act," that it is perpetually in need of something to make it act, that it is "sluggish," that it is easily "upset."

While the laity talk of their livers with an exactness which is based apparently upon most familiar acquaintance, the physician has not yet acquired a sufficient knowledge of that organ to enable him to even define precisely what is meant by "biliousness" or to give any reasonable scientific account of a "bilious attack." Time will probably show that the liver has played the part of a pampered charlatan and that its reputed powers are to no little extent based upon a great physiological fraud. Wherever the truth might lie, it would appear evident that this much-physicked organ is not competent to deal with the requirements of the alimentary canal of modern man, or at least that it performs its duties in the halting manner of a worn-out machine.

How things will fare with us in the future it is hard to say, but some hope of amendment is held out by the knowledge that nature appears to be both ready and ingenious in modifying structure to meet individual requirements. One notices, for example, amongst mammals what extraordinary and probably satisfactory experiments have been tried with the cæcum. The ornithorhynchus has a mere apology for a cæcum; the ursidæ have no cæcum at all, while many of the herbivora have cæca of immense proportions which apparently play an essential part in digestion. The two-toed anteater seems to have been in doubt as to whether it should accept the mammalian cæcum or content itself with the double cæcal appendages of certain birds, and to prevent any inconvenience from its indecision it has provided itself with three cæca—one of the mammalian form and two of the type met with in certain birds. The vulpine phalanger has been very decided in its appreciation of the cæcum and has possessed itself of an appendage which is twice the length of its own body.

In the matter of the stomach nature has proved to be most accommodating. The blood-sucking bat, or desmodus, living as it does on a highly digestible food which requires little more than storage, has almost solved the problem of how to live without either stomach or intestine. The fruit-eating bat—the pteropus—has turned its stomach upside-down so that it might digest its food in comfort while hanging head downwards. The kangaroo has a stomach precisely like our large intestine—i.e., arranged in sacculi so that its food may be packed away in small parcels and thus not incommode the animal when taking its prodigious leaps. The ruminant stomach appears to have been the outcome of an unattractive and bulky diet on the one hand and on the other hand of that passion for leisure and for reflection after meals which is so well marked in the common cow.

Without multiplying examples of apparent experiment and adaptation, one might be permitted to speculate as to the future form of the digestive canal of man. The human being is becoming toothless, and when it is recognised that a conspicuous function of the teeth is merely to provide material for the undoubted ingenuity of the dentist they will probably be allowed to go. Recent operations in which the entire stomach has been excised without any very gross inconvenience to the patient would seem to suggest that one might possibly dispense with our present type of stomach. Our intestine is probably unnecessarily long and the removal of considerable portions of it has done no more than add to the comfort of those individuals who have recovered from the operation. One patient of mine, who was the subject of congenital stenosis of the lower bowel, has been entirely relieved by the removal of the anus, rectum, sigmoid flexure, and descending colon. The child's large intestine is in this case represented by the ascending and transverse colon only, very much to the convenience of the patient. The frequency with which the sigmoid flexure is involved in mechanical difficulties and the common occurrence of cancer in the rectum would suggest that the terminal part of the bowel is becoming effete and may be regarded as degenerate by any pathological Max Nordau. As a matter of simple speculation it may be surmised that the coming man will be quite edentulous, that he will have a less enigmatical liver and no gall-bladder, and that his intestine will be considerably shortened and—it is to be hoped—considerably simplified. Extreme refinement in the selection of food materials and an exquisite cultivation of what is termed a "palate" may lead to an elongation of the œsophagus and to the development of taste-organs along its entire length. In the place of the present stomach it is probable that the edentulous man will develop a gizzard. A gizzard would appear to be a labour-saving organ which is to be depended upon, and which is little liable to get out of order. A gizzard would probably be a great comfort to the over-worked man of business and to the seeker after pleasure who spends much of his life in continental hotels. The ruminant stomach has many attractions. Its size would make it popular with the operating surgeon, and its leisurely method of disposing of its contents suggests intervals of calm in the rush of modern existence. A ruminant stomach in a human being would, however, be inconsistent with the exclusively human habit of after-dinner speaking, and the actual act of rumination would no doubt be inconsistent with the amenities of the modern drawing-room.

To leave these matters of speculation and to enter upon subjects of present interest I would venture in the first place to allude to certain features connected with intestinal obstruction. The morbid anatomy of this affection has been very elaborately treated by many writers, and it is probably safe to assume that our knowledge of the mechanism of obstruction of the bowel is, in its main particulars, practically complete. From a clinical point of view, a proper appreciation of this common trouble is a little obscured by the prominence given to the actual item of the obstruction. In a fatal case of acute intestinal obstruction the undoubted occlusion of the bowel is by no means either the most serious or the most essential element in the progress of events. In a really acute case death will

take place within seven days, and it may almost be said that the fatal issue is in small part due to the fact that the lumen of the bowel is occluded. Obstruction of the bowel *per se* is not an acutely serious thing. The intestine may be blocked for a week, or for two weeks, or even for three weeks, and yet no very distressing or very alarming symptoms may attend this circumstance. In a fatal case of acute intestinal obstruction it can hardly be said that death is due directly to the obstruction. The complete closure of the bowels for a period of, say seven days, is not in itself an accident to cause death. Moreover, the clinical manifestations in a case of acute intestinal occlusion are in large part due to conditions other than those directly arising from the obstruction in the lumen of the gut. Finally, there is a period in the progress of such a case as we are considering in which the relief of the obstruction will not save the patient's life. Those who like to speak in paradox are almost justified in saying that in fatal cases of intestinal obstruction the patients do not die from intestinal obstruction. The interest of this matter extends, however, beyond a mere play upon words, and it can be shown that an undue prominence given to the mere fact of the obstruction is apt to distort both the clinical conception of the disease and the proper view of its treatment.

In the course of a case of acute intestinal obstruction it is possible to recognise three stages. In the first stage—or that of the onset of the trouble—the symptoms are those of intense abdominal pain, collapse, and vomiting. We will assume that the lesion is represented by the snaring of a loop of ileum by a peritoneal band. The symptoms in question, however, are in no way due to the fact that the bowel has become abruptly blocked. They depend upon the circumstance that a sudden and intense impression has been made upon exquisitely sensitive abdominal nerves. The symptoms must be classed as purely nervous. The vomiting, for example, is reflex and has no connexion whatever with the accidental fact that the bowel has become occluded. The symptoms which mark the onset of a case of acute intestinal obstruction have little or no diagnostic character. They are symptoms which attend all sudden and intense painful impressions upon important visceral nerves, and have been collectively described under the title of "peritonism." They are symptoms common to a series of intra-abdominal accidents. In the absence of any determining feature in the patient's history these clinical phenomena may equally well mark the passage of a gall-stone, the torsion of an ovarian tumour, the perforation of an ulcer of the stomach, or the rupture of a pericæcal abscess. They are nervous symptoms produced by a common nerve lesion and their interpretation can proceed no further than this—there has been an abrupt and intense impression made upon some part of the abdominal nerve plexuses. We have all seen cases in which perforation of the stomach or the appendix has been mistaken for intestinal obstruction and *vice versâ* and cases in which the lesion found in an early operation has had no kind of relation to the trouble suspected or assumed.

In what may be termed the second stage in a case of acute obstruction the symptoms attain more individuality and depend without doubt mainly upon the mechanical obstacle in the bowel. The pain is to a large extent due to disordered and futile peristaltic movements, the absolute constipation depends upon the blocking of the intestine, and the persistent vomiting is in the main due to the same cause. The character of the vomit, however, shows that another factor is being introduced into the circumstances of the case in the form of rapid decomposition of the intestinal contents. This depends, of course, upon the unnatural retention of those contents in the bowel and probably in a still larger degree upon vascular and other changes in the intestinal wall. The vomited matter becomes offensive and acquires an odour which for want of a standard of offensiveness may be called stercoraceous. Fæculent or fæcal vomiting—by which I assume is meant the ejection of fæces—I have not met with in acute obstruction. Finally, there is an increasing distension of the abdomen. This is largely due to mere accumulation, to mere inability of the contents to escape. The meteorism in intestinal obstruction is, however, in great part due to vascular changes in the bowel wall. This fact has been fully demonstrated by experiments upon animals and by pathological observations in man. It is well illustrated by the distension of the twisted loop in volvulus of the sigmoid flexure. The most severe case, indeed, of meteorism of the small intestine which has come under my notice was associated with no mechanical obstruction in the gut but with thrombosis of the superior mesenteric vein.

Last of all, in the third or final stage of acute obstruction the symptoms have little to do with the actual obstruction as such. They are the symptoms of poisoning and the patient who dies unrelieved dies poisoned. The septic matter which leads to his death is derived from his own intestine. It is the rapid onset of septicæmia which makes the operative treatment of acute intestinal obstruction so futile in the majority of cases. In many and many an instance an accurate diagnosis has been made, an early incision has been carried out, and the cause of the obstruction has been readily discovered and removed. The abdomen is closed and the patient dies. I remember one very painful example of this sequence of events. The patient was a man of middle age; the operation was performed forty-eight hours after the onset of the attack. A strangulating band presented itself the moment the abdomen was opened. It was divided without difficulty and the parietal wound was closed. A more favourable case could hardly have been conceived, yet the patient died with septic manifestations and the necropsy revealed no breach in the bowel and no gross peritonitis.

Those who wish to advance the therapeutics of intestinal obstruction must first of all grapple with this terrible element of intestinal septicæmia. Surgery wants a Lister who will teach us how to overcome the process of decomposition in the bowel. The lesion of the bowel need be by no means grave, the operation of dividing an easily discovered band cannot be considered to be severe, and yet the patient dies. I am quite aware that in a large proportion of these cases there is infection of the peritoneum to a degree which may lead to death and yet produce few of the naked eye manifestations of peritonitis, but the infection starts from the bowel and in the bowel the process of antisepsis must start. The intestine has some power of acquiring immunity against this septicæmia, as is made evident in cases of chronic obstruction of the bowel, and one meets with slighter grades of this self-poisoning from which the patient makes an easy recovery. Such milder forms are often seen in instances of fæcal accumulation. As soon as the fæcal mass has been removed there is often some fever with a mild degree of collapse and possibly nausea or even vomiting. As a rule such manifestations vanish in a day or so. The stomach seems not to lend itself to this form of blood-poisoning and extensive accumulations may take place in that organ and lead to no septic effects. The colon, too, would appear to possess a natural immunity up to a certain point, but in the lesser bowel the process is uncontrolled, desperate, rapid, and almost hopeless.

From a practical point of view, the treatment of acute intestinal obstruction appears to me to demand two things of the surgeon—(1) an early operation and (2) the evacuation of the bowel after the strangulation has been relieved. The first of these two measures will, I imagine, be allowed by all to be commendable. I do not urge that the opening of the abdomen in these particular cases is a trifling measure, but it is infinitely trifling when compared to the mere standing by with folded hands to await the remote possibility of spontaneous cure. The so-called medical treatment of these cases is a relic of the dark ages and must rank with the "faith cure" and the medical treatment of a dislocated hip.

With regard to the second proposition it appears to me that in a certain sense the real danger to life lies rather with the poisonous material in the intestine than with the actual obstructing cause beyond its walls. As I have already said, the patient is dying not because his bowel is occluded, but because the distended gut above the obstruction is producing a poison which is sapping his strength. It has unfortunately been too many times demonstrated that the successful relief of the obstruction will often fail to save life, and, indeed, it is of more moment to relieve the patient of the trouble within his bowel than of that which is without it. I have in all cases of acute intestinal obstruction with which I have had to deal in recent years not considered the operation complete until I had, as a matter of routine, emptied the bowel. This is conveniently done by bringing the most distended coil to the parietal incision and evacuating it by means of a small glass tube which is inserted into the gut and secured to the bowel wall by a single encircling thread. I have had no difficulty in closing the small artificial anus by a subsequent operation carried out some weeks after the original proceeding. I can certainly

state that this measure has had the effect—in my own practice at least—in reducing the mortality of this formidable measure to one-half of its original rate.

Some time ago, when collecting records of cases of acute intestinal obstruction treated by operation, I was struck by the fact that by far the best results attended the instances in which the surgeon had simply performed enterostomy—that is to say, in which he had made a small abdominal incision, had drawn out the first distended coil which presented itself, and had opened it and fixed it in position. In this remarkable series of cases the obstruction had been ignored and had not even been sought after and evidence was lacking to show what had happened to the snared bowel after the operation. I am quite aware that among these cases there are probably some in which there had been an error in diagnosis, but the number of examples in the series is too extensive to allow this possibility to disturb the conclusion which is forced upon those who will critically examine the evidence. In my opinion, the operation for really acute intestinal obstruction is not completed until the bowel has been evacuated of its contents. This measure of treatment is by no means new; it was most vigorously advanced by Travers in his remarkable work on the intestine which was published over eighty years ago. Travers supported his views by experiments upon animals and by the observation of many cases in the human subject and he elaborated his proposition by arguments which have not been affected by the scientific advances of a century.

To appreciate and deal with septic processes within the bowel must be one of the very first rudiments of intestinal surgery. The teachings of Lister have led to a revolution in the surgeon's art which is still a matter of amazement. Antiseptic surgery, however, as we employ the term, concerns itself mainly with the prevention of forms of infection in which the septic germ is introduced into the body from without. Antiseptic surgery has practically left untouched those forms of infection in which the septic element is in a certain sense introduced into the system from within. I allude specifically to those grave and often fatal conditions of septicæmia in which the patient is poisoned by the products of decomposition in his own intestine. I have just alluded to such infection in connexion with acute intestinal obstruction and without going fully into the matter I might add that in the majority of the examples of non-traumatic peritonitis, excluding the puerperal and tuberculous forms, the infection comes from the patient's own bowel. And with regard to that infection the remarkable fact is this, that the bacillus which appears to be most concerned in the production of this septicæmia is not a bacillus introduced accidentally into the bowel from without, but a bacillus which exists normally in the bowel in a condition of health. I allude, of course, to the bacterium coli commune. It is probable that the micro-organisms described under this name do not belong to one particular, definite species and that the term bacterium coli commune may be taken as a collective name for a group of bacteria which will probably be in time resolved into several different species. Anyhow this widely diffused bacillus exists normally in the intestine of healthy man and appears in the bowel a few hours after birth. It is found in all parts of the intestinal canal and at all periods of life. It is scarcely reasonable to assume that this invariable occupant of the healthy intestine is a mere noxious or useless parasite. It is more than probable that it is concerned in some direct or indirect way with the process of digestion. It would be indeed interesting to know how the phenomena of digestion would proceed in a sterile bowel. The bacterium coli may remain a perfectly harmless saprophyte; on the other hand it may rapidly alter its character and become possessed of intense pathogenic activity. It has been shown that in the majority of cases of perityphlitis the local inflammation is due to the bacterium coli commune which has escaped from the lumen of a diseased vermiform appendix. That extensive variety of peritonitis which takes its origin from the intestine — as illustrated by the peritoneal infection attending strangulation of the bowel — would appear to be in nearly every instance due to the micro-organism now under discussion. The virulence of the bacillus coli is subject to a quite extraordinary variability. An exaltation of its virulence may be due to an association with other organisms, pathogenic or non-pathogenic, but in most instances its morbid activity is excited by some change in the condition of the bowel itself. Diarrhœa, enteritis, cholera, typhoid fever are all capable of rendering this organism virulent, and the same may be said of the conditions attending fæcal accumulation.

Experiments upon animals make it probable that in man a moderate infection of the peritoneum with the colon bacillus from a healthy bowel would be harmless, while an infection by equal dose from a bowel rendered in any way unhealthy would induce peritonitis. Surgical experience would certainly support the suggestion. Klecki[1] has shown that the bacterium coli from the ileum is the most virulent, that from the jejunum ranks next, while that from the colon is the least potent for harm. There is no doubt that so long as the bowel wall remains intact, especially as regards the epithelium, little or no opportunity is afforded to the bacterium to escape from the gut. Artificial compression of a loop of bowel by an indiarubber ring (with or without ligature of the mesenteric vessels) will cause acute general peritonitis in dogs, as Klecki has demonstrated. The animals die in from twenty-four to forty-eight hours. The epithelium rapidly desquamates, the vessels dilate, and there is an abundant infiltration of the whole wall of the ligatured knuckle. The virulence of the colon bacillus within the loop is infinitely greater than that of the same micro-organism from an undisturbed part of the same intestine.

These facts suggest, by the way, that the handling of the bowel during an operation should be of the gentlest and that the evacuation of an obstructed loop is very desirable. On the other hand there is no doubt that the normal peritoneum has considerable powers of resisting an invasion of this particular bacterium. This protective power, however, would appear to be very soon lost if the delicate surface of the serous membrane be damaged. There is no doubt that the washing and scrubbing and rubbing to which the peritoneum was exposed while surgeons were under the influence of that fatal expression "the toilet of the peritoneum" led to many deaths. The peritoneum has remarkable powers of protecting itself if only the surgeon will permit it to exercise them. Save in a few exceptional instances the serous membrane is better able to deal with a moderate effusion than are the over-ready sponge and the futile and often fatal drainage-tube. I have noticed, moreover, that the peritoneum which has been subjected to repeated infections becomes in time almost immune. The operations which can be carried out with success in patients who have had repeated attacks of peritoneal inflammation are often almost beyond credence.

It will be evident from these few observations that the foundation of a rational intestinal surgery must be based upon a fuller knowledge of bacterial processes within the bowel. We need to know the function and purpose of the great bacterial horde which normally occupies the intestine, the circumstances which modify the virulence of those bacilli, and the conditions needed to apply the principles of antisepsis to the lumen of the bowel. One can, for example, imagine it possible that the introduction of some non-pathogenic bacterium into the intestine may beneficially influence by its growth the powers of micro-organisms which are already rampant in the bowel and uncontrolled. The impossibility of employing potent drugs, or what may be termed the usual antiseptics, to arrest certain decompositions within the bowel suggests the searching for such a measure as has just been mentioned. We want further information as to the conditions which increase and which diminish the power of the peritoneum to protect itself from invasion. I can imagine that in the future we may be able by artificial means to secure an immune peritoneum, and that this desirable condition may possibly be brought about by certain preliminary injections into the serous cavity itself. Among the minor advantages which would arise from a fuller knowledge of the common changes within the bowel I can imagine the discovery of an aperient which might be administered hypodermically. The need of a hypodermic aperient must have been apparent to all of us. It will probably not take the form of a drug, but rather of some product of bacterial change. Numerous experiments have been made upon animals with the colon bacillus and with its products, and especial interest attaches to those experiments in which the inoculations have been made hypodermically. It is evident that at present our knowledge of the subject is very crude and that our control of the bacillus coli is singularly imperfect. These injections in animals

[1] Annales de l'Institut Pasteur, 1896, tome ix., p. 710.

have led to very widespread and disastrous symptoms, but among them I notice the frequent mention of diarrhœa and it seems quite possible that further investigations may enable the bacteriologist to evolve a substance which will produce a diarrhœa which seems to be a feature in these hypodermic administrations.

We might now pass on to the consideration of certain points in connexion with the surgical handling of the intestine. In the first place it may be said that the common and useful operation of colotomy has been greatly improved within the last few years and has been rid of most of the after discomforts which made it at one time a measure to be greatly dreaded. The operation in the iliac region has entirely supplanted the colotomy in the loin, and the latter procedure has, indeed, become one of the rarest of abdominal operations. In inguinal colotomy pains have to be taken to select a proper spot for the opening in the sigmoid flexure, the bowel must be carfully fixed and, in my experience, the best results have attended the immediate opening of the gut, the contents being evacuated through a glass tube. Little or nothing is now seen in practice of two after-troubles which were at one time the bugbears of colotomy—viz., the contraction of the orifice, on the one hand, and the prolapse of the exposed bowel on the other. The average colotomy gives the patient but a minimum amount of trouble. In a large proportion of cases it is possible to secure a good action of the bowels every forty-eight hours, the artificial opening causing the patient but little or no inconvenience in the interval. If there be a degree of colitis present at the time of the operation it is true that the new opening may be the seat of a not inconsiderable distress. But in the average case the administration of a dose of mistura alba very early in the morning on alternate days will secure an ample evacuation of the bowel, followed by a period of immunity from disturbance. This much-to-be-desired result is rendered possible by very careful feeding and, above all, by the utmost attention to the wound. There is no doubt that the troubles attending colotomy, as performed some years ago, were in large measure due to neglect of the wound. A pad of septic tow and a dab of vaseline were placed over the bowel and the requirements of surgery were considered to have been thereby fully met. The gross neglect of the part was excused on the ground that the operation area was already septic. As a matter of fact, few complicated wounds respond more readily to careful treatment and assiduous attention than does the colotomy incision and the benefit to the patient from such care can hardly be over-estimated. I am convinced that the troublesome catarrh of the colon which was not uncommon after colotomy was very often due to the filthy condition into which the wound was allowed to pass, and that difficulty with the bowel in the form of prolapse was often dependent upon the same cause.

It is satisfactory, however, to note that the necessity for colotomy is rendered less frequent by the numerous opportunities for performing resection of the bowel—especially for cancer—and by the excellent results which have followed upon the operation of lateral anastomosis or short circuiting. The excision of a portion of the colon for malignant disease must rank as a most satisfactory procedure. The best results are obtained when the growth is situated in the sigmoid flexure or in such other part of the large intestine as may be provided with a free meso-colon. The least satisfactory cases are those in which the growth has involved a part of the bowel which is unassociated with a meso-colon and has a portion of its surface denuded of peritoneum. It is essential for success that the growth should be dealt with early and that the excision of the gut and of the associated meso-colon should be as liberal as possible. Indeed, it appears to me that among all the operations for the treatment of cancer by excision the removal of a portion of the sigmoid flexure for early epithelioma must rank as one of the most successful. In those instances in which the malignant growth—by reason of its position or extent—cannot be excised there are, happily, a fair proportion of cases in which a lateral anastomosis can be carried out and the patient be thus spared the inconvenience of a colotomy. Experience has shown that a considerable portion of the intestine can be thrown out of the circuit without apparent inconvenience to the patient.

Time will not permit of a discussion of the various methods whereby the bowel may be sutured, excised, or short-circuited. The name of intestinal sutures is Legion. Indeed, the passion to invent a suture for the bowel seems to be almost as uncontrolled as the frenzy to invent midwifery forceps, pessaries, and needle-holders which has so long afflicted the medical profession. Many of the intestinal sutures are hopelessly bad because the thread passes through all the coats of the bowel and acts as a vehicle for conveying septic germs from the lumen of the gut to the peritoneum. Others are hopelessly complex and of interest only to those who find delight in ingenious puzzles. Not a few are the subject of periodical invention whereby the forgotten Jones-Robinson suture of 1800 becomes the quite original Smith-Johnson suture of 1898. To my thinking the best stitch is still the ancient one which includes a fine continuous suture of the mucous membrane and points of Lembert's suture which involve the other coats of the viscus. Certainly in the stomach no form of stitching is more convenient than this. Moreover, among the horde of intestinal needles the best is the milliner's needle which comes from the draper's shop.

Of the methods of uniting divided bowel, either after excision or in the performance of a lateral anastomosis, the best theoretically is without doubt the method of simple suturing. In practice, however, this can seldom be advantageously employed. The simple suture involves a great expenditure of time; the differences in the segment of gut above the stricture and that below it render straightforward suturing almost impracticable; the bowel at the suture line is very apt to kink. To cope with these difficulties there has arisen the remarkable host of plates, discs, tubes, cylinders, buttons, and bobbins which has so disturbed the peace of the surgeon who hungers after the "last new thing." Not a few of these appliances alternate between oblivion and rediscovery to the great hindrance of progress. For example, in 1882[2] I described a method of suturing bowel over a collapsible indiarubber bag which was sausage-shaped and was introduced into the ends of the gut to be united. It could be blown out into the form of a firm cushion and before the last stitches were introduced could be emptied and withdrawn. A little experience showed me that my bag was useless and I promptly discarded it. Now after a period of sixteen years an American surgeon, Dr. W. S. Halsted[3] rediscovers my useless bag and reproduces it with singular exactness. He believes this old-new procedure to be "better than any method hitherto devised," and so we step back sixteen years. Dr. Halsted also, by the way, expresses his conviction "that there should be a law compelling all surgeons to practise on animals the operations for circular suture of the intestine and for intestinal anastomosis." I hope this view will not commend itself to the legislators of this country. Many years ago I carried out on the Continent sundry operations upon the intestines of dogs, but such are the differences between the human and the canine bowel that when I came to operate upon man I found that I was much hampered by my new experience, that I had everything to unlearn, and that my experiments had done little but unfit me to deal with the human intestine.

Of the various appliances in vogue for the uniting of divided bowel I think the best is Murphy's button. It is very far from being a perfect instrument, but it compares at least very favourably with the other forms of apparatus which compete with it. The idea underlying the button appears to have originated sixty-two years ago in the brain of one Denans.[4] "He introduced into the upper and lower end of the (divided) gut a silver or zinc ring, thrusting it inwards about two lines from each end; he then brought the two ends together over a third ring, of which the two springs retain the external rings. The included ends of the intestine mortify and the rings thereby becoming unfastened are discharged by stool after they have united the serous surfaces in contact" (Chelius). I have employed Murphy's button in considerably over 50 cases with results which are certainly satisfactory. The button requires no elaborate preparation; it is always ready; its introduction is exceedingly simple and is effected in a few minutes. The two parts of the instrument may certainly jam, but I think that that accident is the result of careless handling. I have never known it to induce a gangrene which has extended beyond the limit of the button. The two definite and undoubted objections to the button are these—it may be indefinitely retained

[2] Transactions of the Royal Medical and Chirurgical Society, vol. xlviii., p. 55.

[3] Philadelphia Medical Journal, Jan. 8th, 1898.

[4] Recueil de la Société Royale de Médecine de Marseille, No. 1, 1826.

and its separation may be followed by contraction of the artificial opening. These two undesirable results are often in close relation to one another as cause and effect. In the cases of cholecystenterostomy in which I have used the button I have never known it to be retained and, so far as I am aware, the opening made has not undergone inconvenient contraction. In cases in which the button has been employed in the colon only I have never had it retained, but in some instances—a very small minority—there has been contraction of the new passage. In examples of gastro-enterostomy performed by means of this apparatus retention of the button for considerable periods or its absolute failure to appear at all seems to me to be the rule rather than the exception. In not a few instances there has been undoubted contraction of the artificial opening. In only 2 examples of gastro-enterostomy in which the button was retained has that instrument caused any trouble. In the first of the 2 cases I performed gastro-enterostomy upon a man, aged thirty-nine years, for pyloric obstruction due apparently to non-malignant disease. He had been ill a year at the time of the operation, which was performed on March 24th, 1897. He was at that time greatly emaciated and the stomach was very much dilated. He made a perfect recovery and subsequently gained 3 st. in weight. He had no further gastric symptoms of any kind. The button was never known to have passed. On March 14th, 1898, he was seized with severe epigastric pain after bicycling. In due course a fœtid abscess formed under the old scar. This was opened on March 28th and it rapidly healed. A skiagraph showed very distinctly that the button was still in the stomach. On April 16th I opened the stomach and removed the button, which was quite loose. It was black and rough, but still in working order. The patient's recovery was complete and he left the surgical home in three weeks in excellent condition and free from all gastric symptoms. In the second case the patient was a man, aged thirty-six years, with non-malignant obstruction of the pylorus and great dilatation of the stomach. Gastro-enterostomy was performed in June, 1897, followed by a speedy recovery. He kept in excellent health until March, 1898, when after a few days of abdominal pain an abscess containing fæces burst through the parietal wound. A fæcal fistula has since remained. In this case the button lodged in the lower ileum and owing to peculiar complications which I need not deal with it has only just been removed.

As an example of contraction of the colon after the use of the button I may mention the following case. A man, aged sixty-one years, who had had symptoms of chronic intestinal obstruction for some months, was seized with symptoms of acute occlusion of the bowel, attended by immense distension of the abdomen and stercoraceous vomiting. Laparotomy, performed in January, 1897, revealed an epithelioma in the centre of the sigmoid flexure. The urgency of the case and the great distension forbade any attempt at excision. I therefore effected an anastomosis, by means of a Murphy's button of the largest size, between the two extreme ends of the sigmoid flexure. The diameter of the button was 1½ in. Fluid fæces were passed before the patient left the table and he was at once relieved. The button, which had already been used in two previous cases, was passed on the twenty-second day. The patient was walking out of doors at the end of the fourth week. In March, 1897, he had regained his original weight and his bowels were acting well with aperients. I then performed a second laparotomy to remove the sigmoid flexure. Although only thirty-eight days had elapsed since the passing of the button I found the artificial opening I had made so contracted that it would do no more than admit my little finger. I removed the whole sigmoid flexure and united the descending colon to the rectum by means of the same button. This button was passed on the sixteenth day. The patient recovered rapidly and remains in sound and vigorous health.

The explanation of these cases of contraction, whether in the stomach or in the colon, is not far to seek. The button effects an opening between the two viscera by means of pressure gangrene. I have noticed that after-contraction has only occurred in cases in which the upper viscus was much dilated at the time of the operation. It is needless to say that in gastro-enterostomy in pyloric obstruction a dilated stomach is met with and in intestinal anastomosis for stricture the upper segment of the gut is apt to be enormously distended. After the operation the dilated organ contracts and consequently the newly made hole contracts. I can easily imagine that a hole in a dilated stomach made by pressure gangrene and of the size of half a crown may readily become an aperture of the size of a fourpenny-piece when the distended viscus has gradually contracted. It is therefore very desirable to have the viscera to be dealt with as empty as possible before the button is introduced. This end is very difficult to secure even to a partial degree. The stomach, for example, in old pyloric obstruction, even when kept washed out for many days, is slow to contract, and if at the time of the operation the viscus be still much dilated retention of the button and some inconvenient contraction of the new opening may be regarded as possible. This association between previous distension of a viscus and the subsequent contraction of the aperture made in it is of course by no means limited to Murphy's button. It applies to nearly every method in vogue for carrying out the operations now under discussion. Still, in spite of many drawbacks and many failures intestinal surgery has made within the last few years decided and substantial advances; but it will fall short of perfection until antiseptic surgery, which has so far penetrated only to the serous covering of the gut, has reached the mysterious and septic lumen which lies within the bowel wall.

SUMMARY OF GUNSHOT WOUND CASES TREATED IN NO. 2 NATIVE GENERAL HOSPITAL AT RAWAL PINDI.

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(Continued from page 1120.)

MARTINI-HENRY BULLET-WOUNDS.

1. MARTINI-HENRY bullets lodged in the tissues much more frequently than the Lee-Metford and much more deeply than the round balls. Consequently they were more difficult to find and also more difficult to extract, partly owing to their greater depth and partly owing to their being more deformed, more jagged and flattened.

2. Owing to the Martini-Henry bullets being more deeply lodged there was a greater tendency for them to shift their position, to wander in the planes of the deep muscles or inter-muscular septa.

3. Major Beevor's Roentgen rays apparatus proved of the greatest use in localising the site of and in confirming the presence or absence of bullets in the tissues. In a couple of instances men were received with only a single scar, that of the wound of entrance; but there was no reliable information available as to whether the bullet had been subsequently extracted. With the x rays it was a simple matter to demonstrate that no foreign body remained lodged in the limb or part affected.

4. Owing to the introduction of foreign bodies or septic material, owing to the greater trauma to the tissues, or in consequence of increased manipulative interference in extracting deeply-seated and encapsuled projectiles the wounds suppurated, sinuses were common, and the patients were longer in hospital. There was more damage done to important structures, so the wounded were disabled for a longer average period.

5. Wounds of the lower extremity in this series number double those of the upper. Case 70, in which a bullet travelled half way round the pelvis without injury to the viscera, is one of considerable interest, as is also Case 193, in which a bullet perforated the chest, lung, and shoulder-joint and fractured the head of the humerus.

CASE 70. *Gunshot wound in the abdomen, V., S.*—The patient (1st Battalion 2nd Gurkhas) was wounded at Maidan by a Martini-Henry bullet fired at a range of about 600 yards. It struck him on the right buttock, traversed the pelvis, and emerged in the right groin close to the os pubis. After piercing the skin the bullet dropped down inside his trousers, not having sufficient force to find its way through his clothes. The wound healed readily, so that he was able to walk a little eight days after the injury. On admission here (Dec. 1st, 1897) both wounds were quite healed, the scar of entrance being round, that of exit being linear and 1 in. in length. It would seem that the bullet entered the sacro-sciatic foramen or perforated the ligaments and then passed round

the brim of the true pelvis and was directed along Poupart's ligament until it came out just above the spine of the pubes. In this way neither the bones of the pelvis nor the pelvic viscera were injured and the man had a most wonderful escape and a rapid recovery. On Dec. 13th he was discharged to duty at his depôt.

CASE 23. *Gunshot wound in the lower extremity, IX., 1.*—The patient (1st Battalion 2nd Gurkhas) was wounded at Dargai on Oct. 20th, 1897, by a Martini-Henry bullet fired from above while he was running at "the double." He was admitted here on Nov. 9th, at which time the entrance of the wound was healed. It was on the outer and front aspect of the left thigh close to the knee-joint. There seems to have been a suspicion that the bullet had lodged in the lower articular end of the femur owing to the joint being hot, inflamed, tender, and enlarged, with great limitation of movement. As the position of the bullet could not be accurately located, on Jan. 12th, 1898, a skiagraph of the limb was taken by Major Bamber and Major Beevor. This showed the bullet to be lying behind the tibia just below the insertion of the semi-membranosus muscle. It turned out that Major Beevor had taken a skiagraph of this case at Shinawari soon after the Dargai action. At that time the bullet was lying an inch below the head of the fibula and to its outer side. Consequently the bullet had travelled upwards and inwards across the back of the leg in the interval of about two and a half months. On the 15th the bullet was extracted from the muscles of the calf. Considerable difficulty was experienced owing to the peculiar jagged shape of the bullet, which had become encapsuled. A good deal of suppuration followed extraction of the bullet, involving a fresh incision and drainage; healing was therefore greatly retarded.

CASE 158. *Gunshot wound in the lower extremity, IX., 1.*—The patient (1st Battalion 3rd Gurkhas) was wounded in Tirah on Dec. 12th, 1897, by a Martini-Henry bullet which was fired at a range of about 600 yards. It struck him about the middle of the inner side of the left thigh and lodged. On admission here (Dec. 21st) the bullet seemed to be lying above the front of the shaft of the femur and under the quadriceps extensor. It could not be felt by introducing a probe into the wound, but there was a hard and tender spot about 3 in. from the wound of entrance in the situation indicated in the preceding sentence. On Jan. 12th, 1898, the limb was examined with the Roentgen rays and the bullet was stated to be lying close to the inner side of the femur and behind it at the same level as the wound of entrance. On the 14th under chloroform the original wound was enlarged and explored both in front of and behind the femur, but no bullet could be found, though a small piece of khaki cloth, half an inch square, was removed from the track of the wound. Another incision was then made further back, parallel to the femur and behind the adductor magnus, but no trace of the bullet could be discovered, although the back of the shaft was exposed and the surrounding tissues were thoroughly explored. The x rays were applied twice after this. On one occasion the bullet was said to be large and square, lying with its axis transversely across that of the femur on its inner side. On the other occasion it was alleged that three fragments of lead were scattered about at different levels on the inner side of and slightly behind the femur in the position described on the first application of the rays. On Feb. 15th the bullet could be distinctly felt lying in the position first suspected on admission and before the x rays were applied. An incision 2 in. long was made on the front of the thigh about the level of the entrance wound and to the outer side of the sartorius. The bullet was found encapsuled in the quadriceps extensor and it was difficult to dislodge owing to irregularities in its outline. It was flattened and spread out like a fan from base to tip. On one side it was smooth, but on the reverse it was very rough with irregular turned-up edges. In front it was quite sharp-edged. Its length was 1¾ in. and ⅞ in. was its greatest breadth. After this the patient did very well and the wound healed readily. On April 4th he could walk without a limp and without any support, so he rejoined his regiment next day.

CASE 178. *Gunshot wound in the lower extremity, IX., 1.*—The patient (36th Sikhs) was wounded at Bagh by a Martini-Henry bullet on March 24th, 1897, which entered the front of the middle of the right thigh and lodged. He was examined with the Roentgen rays at Bagh and the position of the bullet was determined. It was extracted through an incision at the back of the thigh on the third attempt, the first two occasions having proved unsuccessful. On arrival here (Jan. 22nd, 1898) the wounds were granulating well, but the knee was rather stiff. On Feb. 28th two bits of coarse blue cloth, ½ in. by ¾ in. and ¾ in. by ½ in., were removed through the posterior wound. On March 24th both wounds were soundly healed. The knee was rather stiff and the patient limped a little. On the 26th he was sent on four and a half months' sick leave.

CASE 129. *Gunshot wound, XII., with injury of the external popliteal nerve.*—The patient (8th Mountain Battery) was wounded in Tirah on Nov. 16th, 1897. A Martini-Henry bullet hit him on the outer side of the left thigh a little above its middle and passed inwards and backwards to emerge in the centre of the popliteal space. On admission here (Dec. 19th) the entrance wound was 1¼ in. long and ¼ in. broad. The exit wound was much larger, 3 in. long and 1 in. broad. He complained of much pain in the leg and foot owing to the external popliteal nerve having been injured and involved in the cicatrix. On Jan. 20th, 1898, he was sent on three and a half months' sick leave.

CASE 183. *Gunshot wound in the lower extremity, IX., 1.*—The patient (13th Bengal Lancers) was wounded at Shabkadr on August 8th, 1897, by a Martini-Henry bullet, which entered the right buttock on a level with the great trochanter and lodged. On Sept. 1st an unsuccessful attempt was made at Peshawar to extract the bullet from the front of the thigh under chloroform. He was transferred here on Jan. 26th, 1898, for examination by the Roentgen rays apparatus. The bullet must have shifted its position on the journey to Rawal Pindi, because on admission here it could be so plainly felt on the inner side of the front of the thigh just internal to the scar of the former operation that the use of the x rays was unnecessary. On Feb. 3rd the bullet was extracted without much trouble. It was encapsuled under the sartorius and close to the femoral vessels and it had an irregular surface and flattened shape. On the 28th the wound had quite healed.

CASE 177. *Gunshot wound in the lower extremity, IX., 4, tibia and fibula.*—The patient (36th Sikhs) was wounded at Maidan on Nov. 9th, 1897, by a Martini-Henry bullet which passed through the right leg. It entered about an inch above the internal malleolus and passed out about an inch and a half above the external malleolus. At Kohat the exit wound was enlarged to allow of some fragments of dead bone being removed. On admission here (June 22nd, 1898) both wounds were open and discharging pus. On passing a probe a couple of inches up the track of the exit wound bare bone could be felt. Both tibia and fibula seemed to have united at the seat of the fracture and the ankle-joint had escaped injury. On Feb. 21st both wounds had healed. On March 14th he walked with the help of crutches. On the 26th much callus was thrown out at the site of fracture. The foot was in a good position and movements of the ankle were free. He could walk with the aid of a stick. He was sent on six months' sick leave.

CASE 4. *Gunshot wound in the lower extremity, IX., 1.*—The patient (1st Battalion 2nd Gurkhas) was wounded at Dargai on Oct. 20th, 1897, by a Martini-Henry bullet, which passed through the middle of the leg between the tibia and fibula without touching either bone. On admission here (Nov. 3rd) the wound was granulating satisfactorily. On the 29th he was discharged to duty at his depôt.

CASE 193. *Gunshot wound in the chest, V., perforating contents deeply; upper extremity, VIII., 4, humerus.*—The patient (12th Bengal Infantry) was wounded at Maidan on Dec. 1st, 1897, by a Martini-Henry bullet while retiring on rearguard duty. The shot was fired from a hill about 300 yards distant. The bullet entered his back on a level with the lower angle of the right scapula and about an inch to the right of the dorsal spine; it passed through the chest cavity upwards and outwards, then through the axilla, and emerged on the outer side of the right arm near the insertion of the deltoid. Air and blood came out of the chest wounds. The exit wound was large and irregular owing to the bullet having carried away a portion of the head of the humerus. Fragments of bone were removed from the exit wound while he was in hospital at Kohat. On admission here (Jan. 21st, 1898) the wound of entrance was healed, its scar being ½ in. long, and the wound of exit had completely healed. There was much thickening about the head of the humerus and the shoulder-joint was stiff. On March 9th all the movements of the shoulder-joint were limited, especially abduction, in spite of regular massage and passive movement. There was loss of sensation over the

cutaneous area supplied by the median and musculo-spiral nerves. The prehensile power of the right hand was very feeble. On the 31st prognosis was bad as regards service. He was discharged to his depôt at Bareilly to appear before an invaliding board.

CASE 14. *Gunshot wound in the upper extremity, VIII., 1.*—The patient (15th Sikhs) was wounded at Dargai on Oct. 18th, 1897, by a Martini-Henry bullet, which entered on the outer side of the right arm about an inch above the insertion of the deltoid. It passed inwards towards the median line and slightly upwards, and came out over the spine at the root of the neck behind. He was admitted here on Nov. 5th with a granulating wound and he was discharged to his depôt at the end of that month.

CASE 26. *Gunshot wound in the upper extremity, VIII., 1.*—The patient (2nd Battalion 4th Gurkhas) was wounded in Tirah on Oct. 28th, 1897, by a Martini-Henry bullet which entered the back of his left arm about the level of the deltoid insertion while his arm was raised. It traversed the back of the arm without injuring the humerus and emerged on the outer side at the junction of the lower and middle thirds. He was transferred here on Nov. 9th with a suppurating wound. On Dec. 17th he was discharged to duty at his depôt.

CASE 111. *Gunshot wound in the upper extremity, VIII., 5.*—The patient (No. 2 Derajat Mountain Battery) was wounded at Kharappa by a Martini-Henry bullet while he was holding up his hand as a signal. The bullet was fired at a distance of 700 or 800 yards, and struck the back of his left hand and lodged in the angle formed by the metacarpals of the thumb and index finger. It was extracted soon afterwards, but the wound did not heal readily and severe eczema supervened. On admission here (Dec. 6th) the discharge from the wound was lessening and the eczema on the back of the hand was gone. On Dec. 27th he was sent on two months' sick leave.

SNIDER BULLET WOUNDS.

1. From a review of these 11 cases of Snider bullet wounds the most noticeable thing is the severity of the effects produced, which greatly surpassed the results above described under the headings of wounds from Lee-Metford, Martini-Henry, and round bullets. In all of the Snider wounds recovery was slow or imperfect owing to suppuration and to severe traumatism.

2. In 9 out of the total bones were fractured. The Snider wounds gave the greatest proportion of fractures and also the most severe ones. The spherical bullet wounds had the next greatest number of fractures and the Lee-Metford wounds the fewest.

3. As regards the lodgment of projectiles this occurred in 4 out of the 11 Snider cases, as compared with 5 out of the 12 Martini-Henry wounds, and 13 bullets lodged in 12 of the 16 spherical bullet-wound cases.

4. As in the Martini-Henry series, the wounds of the lower extremities greatly outnumbered those of the upper limbs.

5. It is interesting to note that all 3 cases of bullet-wound of the lung survived. In the Lee-Metford case there was rapid and complete recovery in a fortnight, no bone having been injured; but the results were very different in the two other cases. In one (Martini-Henry) the shoulder-joint was opened and the head of the humerus was fractured, in the other (Snider) the glenoid angle of the scapula was fractured. The subsequent progress of these two cases was very similar. They were both received at Rawal Pindi on the same day, having been 52 and 55 days on the lines of communication after they were wounded; and they remained at No. 2 Native General Hospital for 68 and 69 days. The prognosis in both cases was much the same; one was sent before an invaliding board as permanently unfit and the other was given a chance of six months' sick leave in case he might recover sufficiently to be fit for further service.

CASE 174. *Gunshot wound in the chest, IV., 4.*—The patient (1st Battalion 2nd Gurkhas) was wounded in Tirah by a Snider bullet on Nov. 28th, 1897. The bullet struck the back of the left shoulder, smashed through the outer part of the scapula near its glenoid angle, passed through the lung and chest obliquely, and lodged under the skin in front of the head of the humerus, from which place it was extracted through a vertical incision which healed quickly. Emphysema occurred after the injury and the entrance wound proved troublesome. On his arrival here (Jan. 21st, 1898) the anterior wound was healed and only a small sinus remained in the line of the posterior wound. The movements of the shoulder were limited owing to pain and stiffness. On Feb. 19th the sinus was 1½ in. long and showed no tendency to close. On March 9th a piece of cloth was found and removed while the wound was being explored. On the 28th the sinus had healed. Movements of the arm were slightly impaired, but this stiffness will wear off in time. Two days later he was sent on six months' sick leave.

CASE 100. *Gunshot wound of the upper extremity, VIII., 2.*—The patient (Jhind Infantry) was wounded in Waran on Nov. 16th, 1897, by a Snider bullet. The wound of entrance was just below the right acromio-clavicular joint. The bullet passed directly backwards just above the shoulder-joint, fractured the scapula, and emerged below the spine of the latter. On admission here (Dec. 4th) the wound of entrance was closed and that of exit was merely a small ulcer. The movements of the shoulder-joint were unimpaired. On Dec. 20th the wound of entrance, which was apparently soundly healed, broke down and the wooden plug of a Snider bullet was discharged in the dressings. On Jan. 4th, 1898, he was sent on two months' sick leave, the wound being quite healed.

CASE 179. *Gunshot wound in the upper extremity, VIII., 4, humerus.*—The patient (36th Sikhs) was wounded at Maidan on Nov. 24th, 1897, by a Snider bullet, which struck the outer side of his right arm about the middle, passed through the humerus, shattering it, and escaped just above the inner condyle. On admission here (Jan. 22nd, 1898) the exit wound was healed, but there was a drainage-tube passing from the entrance wound obliquely downwards across the arm to an incision on the inner side of the forearm, which had been made for drainage purposes. On the 31st the wound of exit had reopened and was discharging pus copiously on Feb. 8th. Under chloroform all the wounds were enlarged and the unhealthy granulations lining them were scraped off. A piece of lead ½ in. long and ¼ in. broad was found in the soft tissues and two sequestra of a larger size were removed through the entrance wound. The soft tissues were œdematous and infiltrated for 6 in. above and below the elbow, but the joint was not affected beyond its being rigidly flexed owing to the contraction of the biceps and brachialis anticus. There was no real union of the fracture in the shaft of the humerus, although a good deal of callus existed; accordingly the ends of the bone were rubbed together to stimulate union. Large drainage-tubes were inserted, the arm was put up in small straight encircling splints covered by two ordinary rectangular ones, and a tonic containing strychnine and iron was ordered. By the middle of March the humerus seemed to be uniting fairly well and at the end of the third week all drainage-tubes were removed. On April 5th union was firm in the humerus and the transverse line of fracture could be easily palpated owing to the thickening at that site. Most of the sinuses healed. On the 21st he was transferred to the depôt hospital of his regiment.

CASE 176. *Gunshot wounds, VII., perineum, genital, and urinary organs.*—The patient (36th Sikhs) was wounded at Gulistan on Sept. 13th, 1897, by a Snider bullet which entered the left side of the scrotum, splintered the pubic arch, and passed along the perineum, lacerating the corpus spongiosum and bulb and escaped near the anus. Pieces of the os pubis were removed by operation, urinary fistulæ formed in the perineum, and a counter opening was made in the right buttock. On admission here (Jan. 22nd, 1898) he had a bad traumatic stricture, but only one fistula *in perinæo*, and that was closed before the end of the first week in February. On April 3rd the stricture proved very obstinate, as might have been expected in so severe an organic stricture. Otherwise he was in excellent health, so he was sent on six months' sick leave.

CASE 58. *Gunshot wound in the lower extremity, IX., 1.*—The patient (2nd Battalion 1st Gurkhas) was wounded at Maidan on Nov. 3rd, 1897, by a Snider bullet which ricocheted off the ground before it struck him on the right buttock just above and behind the trochanter major. It lodged about 3 in. from the surface and was extracted a fortnight later. On Jan. 8th, 1898, the wound had completely healed and he would have been discharged to duty had he not been detained to act as a sick attendant on a comrade.

CASE 127. *Gunshot wound in the lower extremity, IX., 4, femur.*—The patient (1st Battalion 2nd Gurkhas) was wounded at Dargai on Oct. 20th, 1897, by a Snider bullet, which struck him on the outer and front part of the right thigh a little above the middle and passed backwards and inwards, fracturing the femur and emerging at the back of the thigh. The bullet then struck his kukri and fell to the ground. His thigh was put up in a long splint and he was

sent to Shinawari, where he remained for 8 weeks. On admission here (Dec. 19th) the exit wound was healed and that of entrance was closing, and the bone had united. On Jan. 8th, 1898, all wounds had healed and union was firm.

CASE 180. *Gunshot wound in the lower extremity, IX., 1.*—The patient (36th Sikhs) was wounded at Maidan on Nov. 23rd, 1897, by a Snider bullet, which entered the inner and upper third of the right thigh and lodged in the limb. An unsuccessful attempt was made at Maidan to remove the bullet, but it was extracted at Kohat on Dec. 9th after its position had been localised with the aid of the x rays. On admission here (Jan. 22nd, 1898) both wounds were soundly healed and there was only a slight limp in the man's gait. On Feb. 9th he walked well and on the 15th he was sent on six months' sick leave.

CASE 172. *Gunshot wound in the lower extremity, IX., 4, tibia and fibula.*—The patient (15th Sikhs) was wounded at Maidan on Nov. 6th, 1897, by a Snider bullet which struck his left leg about 2 in. above the inner malleolus from behind. It smashed the tibia badly and came out in front after breaking the fibula also. After a time he was sent to Kohat in splints, where the wound of entrance was opened up under chloroform on Jan. 8th, 1898. The exit wound appeared to have healed readily. On arrival here (Jan. 21st) there was a large healthy granulating surface about 3 in. long by 1 in. wide on the inner side of the leg above the ankle. There was a great deal of irregular thickening and callus about the lower ends of both bones and the ankle was stiff and tender. Sequestra were removed on the 26th and on March 10th, but the man remained very lame owing to "toe drop" of the great toe. On the 23rd there was a sinus 1 in. long and still bare bone could be felt. On April 17th he was transferred to his regimental hospital at Ferozepur.

CASE 175. *Gunshot wound in the lower extremity, IX., 2.*—The patient (15th Sikhs) was wounded in Tirah by a Snider bullet on Nov. 6th, 1897, at a range of about 150 yards. The bullet entered the lower third of the leg internal to the tibia and passed out directly backwards in a straight line. A bit of the shaft of the tibia was chipped off or injured, because some pieces of bone came away afterwards, but the shaft was not completely fractured. On transfer here (Jan. 21st, 1898) there was a comparatively small wound of entrance, in diameter that of a shilling, with a depressed cicatrix and a small sinus. The exit wound was healing well and was about 4 in. long and 2 in. broad. There was considerable thickening of the limb all round on a level with the injury. On March 1st the wound had been quite healed for the past fortnight, but there were now lameness and defective flexion of the toes; extension was not affected. On April 13th the sinus had almost healed and the patient was doing well. He was transferred to his regimental hospital at Ferozepur.

CASE 187. *Gunshot wound in the lower extremity, IX., 4, fibula.*—The patient (2nd Battalion 5th Gurkhas) was wounded at Bagh on Nov. 26th, 1897, by a Snider bullet, which entered the outer side of the right leg 3 in. above the ankle-joint and came out on the back of the limb about the same level, lodging in his puttee. It broke the fibula and some pieces of bone were removed later. On admission here (Jan. 27th, 1898) the wound of entrance was healed; a drainage-tube 1 in. long was in the exit wound and there was thickening over the lower third of the fibula, in which there seemed to be a small gap. On March 18th suppuration continued, healing was delayed, and non-union of bone continued. He was allowed to go about on crutches. On April 13th over an inch of the fibula was wanting. The probe entered the sinus of exit for an inch and a half and impinged on the free end of the lower fragment, which seemed necrosed. Next day he was transferred to his regimental hospital in the hills.

CASE 148. *Gunshot wound of the lower extremity, IX., 5.*—The patient (Jhind Infantry) was wounded in Tirah on Dec. 13th, 1897, by a Snider bullet which struck him on the dorsum of the left foot about 1 in. from the base of the little toe. It passed through the foot between the fourth and fifth metatarsals and emerged in the sole almost directly below the wound of entrance, lodging in the boot. The exit wound was considerably the larger, probably owing to the bullet forcing fragments of bone before it. He was admitted on the 21st with a freely suppurating wound. On Feb. 18th, 1898, a small sequestrum was removed. A week later he had a severe attack of eczema madidans on the wounded foot. On March 14th both wounds had healed and the eczema was cured. He was discharged to duty at his depôt next day.

CAVALRY CARBINE WOUND.

CASE 191. *Gunshot wound of the upper extremity, VIII., 5.*—This case differs from all the preceding in that it was an accidental self-inflicted wound. The patient (3rd Bengal Cavalry) was wounded on Jan. 27th, 1898, near Khusalgarh, while travelling on escort duty with a sick convoy. He put his left hand over the muzzle of his carbine, not knowing, or forgetting, that it was loaded. The carbine went off accidentally and the bullet passed through his left hand about the middle of the fourth metacarpal, having entered on the palmar surface. Profuse hæmorrhage followed, necessitating the ligature of an artery on his arrival at Khusalgarh. He was transferred by rail to Rawal Pindi next day. The hand was much swollen and inflamed; the wound of entrance was small; the exit wound on the dorsum was ragged and irregular, 1½ in. by 1 in., and involving the fourth metacarpal bone, a portion of which was projecting. The inter-metacarpal space was blackened and sloughy. On Feb. 9th a small piece of the fourth metacarpal bone was discharged in the dressings. On March 10th the exit wound was healed; the scar was depressed. Suppuration continued from the palmar wound and there was more dead bone to be got rid of, though it was not loose yet. On April 10th he was sent on three months' sick leave.

The conclusions drawn from these 52 cases are applicable to the clinical results of these cases only and they must not be considered in the light of generalisations as to the potential destructiveness of this or that projectile. The numbers given are too few for the basis of broad general comparisons, there being only about a dozen cases illustrating the effects of each of these four varieties of bullets, but perhaps these remarks may elicit confirmatory results from those who have had a wider experience.

THE RINDERPEST IN SOUTH AFRICA.

BY JOHN MABERLY, L.R.C.P. LOND., M.R.C.S. ENG.

IN two former communications[1] I endeavoured to place before the readers of THE LANCET as clear an account as possible in a short sketch of the origin and progress of rinderpest in South Africa as well as of the efforts which were being made to overcome its terrible effects, and I shall now try to place on record the work since done and the brilliant victory which has at last been won by scientific research over this the most fatal plague known among those valuable allies of the human race—the horned cattle. In those communications the brilliant discovery of Professor Koch of the antitoxic power of the bile taken from oxen suffering from the disease was recorded and also his initial work with regard to the use of antitoxic serum procured from animals who had recovered from the disease, which work has since been brought to such a happy and successful conclusion by the labours of Dr. Kolle, who came out to carry on Professor Koch's work, and of Dr. George Turner, the Government Health Officer of Cape Colony. It is very satisfactory to be able to place on record the fact that the name of an English medical man is associated with this, perhaps one of the most important achievements in the antitoxic method of treating disease, since it shows that we are coming into line with the great continental discoveries of this century in the methods of bacteriological research. Professor Koch proved that the serum of cattle which had recovered from an attack of rinderpest, when injected under the skin of healthy cattle, protected them from the poison of rinderpest for a short time. He also proved that a mixture of 99 parts of this serum with one part of rinderpest blood, when injected in a series of doses of 20 c.c. into healthy cattle, gradually increased this immunity to a very great extent; but on discovering the immunising power of bile he abandoned further work on the serum treatment as it appeared too troublesome when it came to be applied to large numbers of cattle and also at that time to be inferior to

[1] THE LANCET, Nov. 13th and 20th, 1897.

the bile treatment on account of the impossibility of obtaining sufficient "salted" cattle from which to obtain a supply of serum equal to the demand. The disease was spreading at such an alarming rate that it was imperative that some form of treatment should be applied capable of keeping pace with the spread of the infection. Consequently, although the bile treatment was expensive from the number of cattle required to be sacrificed for its material, it was necessary to continue it for the time being and there is now no doubt that it was instrumental in saving many thousands of head of cattle and at the same time in checking the progress of the disease into uninfected areas to a very considerable extent. As time wore on it was found that cattle which had been rendered immune with bile after periods varying from three to six months lost their resisting power and in many instances succumbed to fresh attacks of the disease.

Whilst this race between the spread of the infection and the attempts, more or less successful, to get ahead of it with bile inoculation was going on, Dr. Kolle and Dr. Turner were persevering in their scientific experiments to bring the serum treatment to perfection. Cattle which had recovered from the disease were gradually collected and a stock of antitoxic serum was in this way secured. From July to the end of October, 1897, antitoxic serum in doses varying from 20 c.c. to 100 c.c. was used for treating herds which had already become infected with rinderpest, it being found that bile (as had been pointed out by Koch at the offstart) was quite useless if the animals treated had already been infected with disease, although they showed no apparent symptoms except a slight rise of temperature, and even animals which became infected any time before six days after the injection of bile were not safe. The serum, if given in sufficient quantity, however, proved capable of overcoming the virulence of the disease provided it was applied within three days after the initial rise of temperature. After that stage it appeared useless even in very large doses. It now slowly became certain that the only permanent immunity was to be found among those cattle which had either recovered from the disease naturally or with the assistance of antitoxic serum and the attention of those engaged in scientific research was turned towards endeavouring to discover some method by which a modified form of the disease could be communicated to healthy cattle, since in this way only did it appear possible that the disease would be finally stamped out. The French *savants* in the Transvaal, Dr. Danysz and Dr. Bordet, first proposed a method of first injecting healthy animals with immunising serum and then keeping them continually exposed to the infection of rinderpest by either occasionally smearing their nostrils with rinderpest blood or keeping them among infected herds. In this way they hoped that the animals would take the diseases as soon as the temporary immunity produced commenced to pass off, but whilst some of the resisting power of the antitoxin was still active enough to modify the disease sufficiently to prevent a fatal result. The results, however, were uncertain and the method was abandoned as too cumbersome for actual application. Dr. Kolle and Dr. Turner tried the experiment of first injecting serum and then rinderpest blood a few days after. This was followed by experiments in which rinderpest blood was first injected followed by antitoxic serum in the course of one or two days, but the results of both these methods were uncertain and they were also open to the objection of requiring heavy doses of serum, and the necessity of catching and casting or otherwise handling the cattle treated at least twice was another drawback in actual practice. They then struck upon the happy idea of simultaneously injecting rinderpest blood and antitoxic serum into the same animal at spots in the body sufficiently apart to prevent the two fluids from mixing together at once. The experiments carried on at the Kimberley station in this method proved eminently satisfactory and it was decided to give the method a thorough trial by placing at Dr. Turner's disposal the cattle living on Robben Island, the Government leper station, situated in Table Bay, which up to this time were entirely free from the disease. The experiments carried on there are so important in their bearing on the future treatment of the disease that it will be well, perhaps, to give them in some detail.

Dr. Turner arrived at Robben Island on Dec. 1st, 1897. The first thing done was to collect all the cattle, and as several of the cows, 29 in all, were heavy with calf Dr. Turner deemed it inadvisable to subject these animals to rinderpest even in a modified form because the fever is liable to cause the cows to miscarry and such miscarriages are frequently fatal. As it would have been manifestly imprudent to introduce rinderpest into the island while some of the cattle were unprotected it was decided to protect these cows in calf by the injection of 150 c.c. of protective serum; this quantity had been found sufficient to immunise for six weeks or more. In this way they would incur no danger of infection when the other animals were infected. This treatment had the further advantage of demonstrating the possibility of producing a temporary immunity amongst dairy cattle without stopping the secretion of milk, a matter of very considerable importance. About five days after the injection of protective serum one of the cows so treated calved in the ordinary course and the calf was born alive and healthy, thus showing that even so large a dose as 150 c.c. of antitoxic serum was not detrimental to life in utero. On Dec. 8th, blood which had been taken from an animal suffering from rinderpest at Kimberley on Dec. 6th was brought to Robben Island and Dr. Turner immediately commenced his work of simultaneous inoculation on the rest of the cattle on the island—in all 52 in number. Each head was injected behind one shoulder with 0·5 c.c. of rinderpest blood and with an average of 25 c.c. of antitoxic serum behind the other shoulder. The dose of antitoxic serum was varied according to the size of the animal, 25 c.c. being considered the proper dose for animals weighing about 600 lb. About two days after the inoculation had been performed Dr. Turner received a letter from Dr. Kolle stating that the dose of this sample of serum should have been taken at an average of 30 c.c. instead of 25 c.c. as at first stated; consequently it was decided to give 25 of the animals a second larger dose of serum in order to prevent the possibility of too great a fatality. The rest were allowed to take their chance. Of these 25 cattle 8 showed no signs of fever chiefly owing to the second dose of serum having been too large. Of the remaining 27 which had not received a second dose of serum 4 showed no signs of fever. Out of the whole number treated only 1 died—an old cow in very low condition; 14 of the animals operated on were cows giving milk at the time. The secretion during the height of the fever was diminished but not otherwise altered; in one it was entirely arrested for twenty-four hours but again reappeared. Dr. Turner, in order to test the quality of the fluid, drank a pint of raw milk—taken from a cow suffering from the modified disease—every morning fasting. This did not produce the slightest ill effect upon him and the milk was used in the public institutions just as usual. As a rule, beyond fever nothing indicative of rinderpest could be noticed in the animals. The exceptions were: 4 purged and had discharge from the eyes and nose (one of these passed blood in the fæces), 2 had runnings from the eyes and nose, and 4 did not eat well for a day or two. The fever commenced about the sixth day after the inoculation and lasted on an average four and a half days; the highest temperature reached was 107° F.

A second series of inoculations carried on under similar conditions at the Government farm, Tokai, near Capetown, gave similar results. 39 animals were "simultaneously inoculated"; no deaths occurred, but 29 showed symptoms of the disease. One cow gave birth at full time to a dead calf and another aborted. The 10 which showed no signs of fever were tested ten days after the first inoculation by injections of 10 c.c. of virulent blood, enough to kill 10,000 full grown oxen. The result was that they reacted in just the same way as other salted cattle and in no case were any symptoms visible. This question of the duration of immunity after an apparently unsuccessful simultaneous inoculation was further tested at Kimberley and it was found that the immunity conferred was active for some months and up to the present sufficient time has not elapsed to decide how long this immunity lasts, whether, in fact it is not a permanent one. The success of this method of inoculation having been thus definitely proved it has since superseded the other methods in the treatment of uninfected herds and has been carried out in some instances on a very large scale. In Matabeleland, for instance, 3141 cattle were inoculated in this manner, with the splendid result that only 25 died, something less than 1 per cent.

In order to fully appreciate the importance of this discovery it will be well to take a short review of the history of the disease in other countries previously to this outbreak in Africa. It was estimated towards the end of the last century that rinderpest caused the death of thirty millions of cattle in Germany alone, and in the whole of

Europe of two hundred millions of cattle. The most recent extensive outbreak of the disease in England occurred in 1865. According to Mr. John Gamgee, in his "History of the Cattle Plague," it was introduced through a shipload of cattle from Revel on the Gulf of Finland, part of which were landed at Hull on May 29th, 1865, and the rest at London the following week. In a leading article in the *Times* of August 15th, 1865, it was stated that as far back as June 12th animals affected with the Steppes murrain were seen in the metropolitan market. By the beginning of November the plague had been conveyed over the length and breadth of the land. By the end of the year 48,964 cattle were reported as having been attacked; 10,645 only remained alive of this number; the rest had been either killed or had died. This gives an average of recoveries of a little more than 21 per cent. and a fatality of about 79 per cent. The disease continued to spread and to commit great havoc until an Order in Council was issued making it compulsory to slaughter and bury all animals affected with the plague as well as those which had been in contact with them. The beneficial effects of this Order were soon apparent and the disease was finally stamped out. In November, 1866, there were only 8 fresh outbreaks, attacking 16 animals. This outbreak cost the country considerably over £3,000,000 sterling. Another outbreak occurred in July and August of 1872, but it was through the prompt action of the authorities quickly stamped out at a cost of only a few hundred pounds sterling.

These facts help us to realise the enormous value of the work which has now been done in South Africa during the late ravages of the disease. Owing to the vast extent of the country, the comparatively sparse population, and the fact that the buffaloes and several of the many species of antelopes which are found in various districts contracted the disease it was found absolutely impossible to check its progress by the most thorough system of stamping out which could be devised, and in spite of all efforts it gradually spread through the whole country. It is not difficult to imagine what would have been the result if no more effectual means had been devised and, I think, it may fairly be considered that we are well within the mark in stating that under these circumstances we should not to-day have 20 per cent. of the whole cattle of the country alive.

According to the Cape Government statistics published in May, 1898, the total number of cattle in the colony, excluding the Transkei, before the outbreak of rinderpest was 1,639,435. Of these, 575,864 were lost through rinderpest, giving a percentage of a little over 35. The number remaining is 1,063,571 or rather over 64½ per cent. If we now apply the figures worked out in the English outbreak and allow a percentage of recoveries of 20, which is far in excess of what actually occurred in the district of Mafeking before Koch's discovery of the bile treatment—where we find that out of an approximate total of 90,400 cattle 80,000 died, 7800 were shot, and only 2600 remained alive, equivalent to something less than 3 per cent.—we arrive at some idea of the difference in results under the older method and that brought about by the discoveries of Koch, Kolle, and Turner. Instead of 1,063,571 head of cattle remaining we should only have 327,887 head of cattle in the country; which means that a loss of 735,684 head of cattle has been prevented in spite of the disadvantages at which we have been working in having to carry out the scientific researches which led up to this result during the time that the epidemic was raging. If now we estimate the cattle thus saved at the rate of £4 per head we arrive at the conclusion that the steps taken to discover a remedy for the disease have resulted in a saving of £2,942,736, or close on £3,000,000 sterling, so that even if the rinderpest bill comes to something like two millions of money we are still one million to the good. Besides the fact that we now have in our possession a remedy which has brought about the astounding result that the death-rate of the disease has been reduced from one of between 80 and 90 per cent. to the trifling one of something like 2 per cent., it must be borne in mind that the figures given as representing the probable saving brought about by the scientific work done for the disease in South Africa is reckoned at the lowest possible figure, both as regards the probable percentage of cattle which would have been lost and also the value per head. The amount really saved would probably be quite fairly represented at an average of from £5 to £6 per head, and in this case would be nearer five than three millions of money.

The facts brought to light by the scientific research carried on during the outbreak of rinderpest in South Africa of the last two years are of so valuable a nature that this paper would not be complete without giving a summary of the more important of them.

A.—As regards the etiology of the disease neither Koch, Kolle, nor Turner have so far succeeded in satisfying themselves that they have discovered and isolated the specific microbe of rinderpest, and their experience leads them to believe that up to the present it has never been isolated, although various observers claim to have done so, but on very insufficient grounds. They believe, however, that a specific micro-organism does exist and that it is of sufficient size to be visible through the medium of modern lenses for the following reason—viz., that if defibrinated rinderpest blood be filtered through a Pasteur bougie the clear filtered serum may be injected into clean animals without any ill effect, while the corpuscles and fluid which remain in the filter cause the disease. The same thing happens with the still more porous Berkefeldt filter. Evidently the organism is either too large to pass through the pores of the filter, or it is contained in the blood corpuscles which are themselves too large to pass. To test this Kolle and Turner mixed defibrinated rinderpest blood with five times its volume of 0·2 per cent. salt solution; this destroyed the red corpuscles. The mixture was filtered through a Pasteur filter and though the original fluid was virulent the filtered solution failed in all cases to infect animals when inoculated.

B.—An interesting question has been raised as to how gall taken from rinderpest animals acts as a temporary immunising agent; this question also at present has not been satisfactorily answered. The filtered gall was proved not to be capable of giving the disease and also does not protect from the disease, but the matter which remains on the filter, even after being twice washed with normal salt solution, while it does not communicate rinderpest yet protects the animal from the disease.

C.—A series of experiments was instituted by Kolle and Turner to ascertain the amount and kind of action that immunising serum exercised over the rinderpest virus outside the body, in order to gain some idea of how it produced its action when injected as a therapeutic agent into animals suffering from the early manifestations of the disease or as a protective agent against attacks of the disease—in other words, to compare the action of the serum *in vitro* with its action *in corpore*, in the hope of ascertaining by this comparison some idea of its mode of action in the latter case. Mixtures of rinderpest blood and immunising serum were made of the following strengths:—(1) 0·5 per cent. of blood to serum, (2) 1·0 per cent. of blood to serum, (3) 2·0 per cent. of blood to serum, and (4) 10·0 per cent. of blood to serum. These mixtures were kept in each case twenty-four hours in a cool place before being used. In Experiment 1 10 c.c. of the 0·5 mixture were injected into two animals. The result was negative; neither did the animals take rinderpest nor were they rendered immune, both succumbing eventually to an inoculation with rinderpest blood on the eighth day after the first experiment. In Experiment 2 20 c.c. of the 1 per cent. mixture were injected into 18 animals. The result was that 7 had rinderpest and 4 died; 11 of the animals showed no reaction and were subjected to a second inoculation of rinderpest blood only. All of them had rinderpest and 7 died. A considerable difference in the ultimate result, apparently dependent on the time allowed to elapse between the first and second injections, is noticeable in this experiment. Seven of the animals which had showed no reaction were injected for the second time seven days after the operation; only 3 of these died, 4 recovering from the disease. Of the remaining 4 cattle which had been unaffected by the first inoculation, 2 were injected with virulent blood on the eighth day and 2 on the tenth day after the first operation; all 4 died, thus apparently showing that the first injection had some power in fortifying the animals against the injection of rinderpest blood if this was performed within seven days. In Experiment 3 20 c.c. of the 2 per cent. solution were injected into 3 oxen; in Experiment 4 10 c.c. of the 10 per cent. solution were injected into 3 oxen. In both cases all the oxen died from the disease.

These experiments showed that working with ordinary unfortified serum and virulent blood *in vitro* the virus was destroyed when present in small proportion—0·5 per cent. When the proportion was increased to 1 per cent. the virus appeared to be destroyed in about 60 per cent. of the cases, to be impaired in 20 per cent. of the cases, and to be

undiminished in 20 per cent. of the cases treated. In higher proportions the virus was undiminished. Working with fortified serum similar results were obtained.

We may conclude, then, that *in vitro* the bactericidal action of the serum obtained from salted animals is small and that the outside limit of its power does not exceed 1 per cent. of its volume of rinderpest blood even after standing twenty-four hours, but that it does exert a modifying influence on the poison is evidenced by the results of the experiments with 0·5 per cent. and 1 per cent. solutions. If now we take results on the other hand of experiments in which immunising serum was injected into animals already infected with the disease, we find that a dose of from 50 to 100 c.c. of immunising serum is sufficient to overcome and counteract the effect of an injection of even from 100 to 200 c.c. of rinderpest blood, provided the former were injected any time within twenty-four hours after the blood inoculation. A comparison of these results shows conclusively that the action of immunising serum on the virus of rinderpest *in vitro* is infinitely less powerful than when applied *in corpore*. In other words, its action on the poison outside the body is very different from its therapeutic power in the living organism; evidently this difference in its action is brought about chiefly through the intervention of the living cells of the animal experimented on. Dr. Kolle and Dr. Turner suggest that the immunising material present in the serum injected is in an inactive modification, that it acts as a stimulus to the cells, probably nervous, and that these cells, again acting upon the injected material, convert it from an inactive into an active modification.

D.—With regard to the preparation of the serum the first serum used was obtained from an animal which had recovered from rinderpest without any treatment, but the serum proved so weak that it was practically useless. The next step was to attempt to increase the power of the serum by injecting into the animal doses not exceeding 100 c.c. of rinderpest blood. This improved the quality of the serum, as proved by the experiments of Dr. Koch. Dr. Kolle and Dr. Turner were led by degrees to increase the doses of virulent blood up to 4000 c.c., and they found that the power of the serum was thereby most decidedly increased. Experience convinced them, however, that animals which had survived a severe attack of the disease are by no means the best suited for purposes of serum preparation, and they now prepare it from healthy animals which have been immunised by the simultaneous method of inoculation and afterwards fortified by successive inoculations of rinderpest blood. The greatest care is requisite in the examination of the blood used for fortifying animals so as to ensure it being free from septic and other organisms and in order to exclude as far as possible the possibility of it containing the germs of other diseases. The animals having been fortified in the way stated they are bled in the usual way and the serum is collected after the clot has formed or by means of a centrifugal machine. The serum has now to be tested so as to gain an approximate knowledge of its strength. This is done by a series of simultaneous inoculations. 10 or 12 healthy animals are taken, their weights ascertained approximately by measurement to be about 600 lb.. Each is then injected with the same quantity of virulent blood and then, say, 3 of these are injected simultaneously with a dose of 15 c.c. of fortified serum, 3 again with 20 c.c., 3 others with 30 c.c., and perhaps 3 others with 40 c.c. The animals are then allowed to stand; food, water, and shelter only are provided; no treatment of any kind is attempted. From the results obtained the strength of the serum is judged. Suppose that some of the animals injected with 15 c.c. die and that the others are severely ill, that those injected with 20 c.c. have a mild attack, that those injected with 30 c.c. do not all suffer, and that none of those injected with 40 c.c. suffer, it would be considered that the dose of that particular batch of serum should be placed at 20 c.c. for animals weighing 600 lb. The serum is then mixed with carbolic acid in the proportion of 0·5 per cent. of the latter and bottled with proper precautions. It has been proved that it retains its strength for at any rate seven months, but for how much longer is uncertain as sufficient time has not elapsed to show.

E.—As regards obtaining rinderpest blood for the simultaneous inoculation process a difficulty arises in transporting it any distance from the fact that it rapidly loses its virulent properties and any preservative added has a similar action. This difficulty is, however, to a great extent overcome by using the blood of living sheep as a means of conveying the poison to a distance. Although the latter animals themselves do not take the disease, still blood drawn from them from three to eight days after an injection of 100 or 200 c.c. of virulent blood fatally infects oxen injected with it, and it has been proved that the strength of the virulent blood can be virtually disregarded in simultaneous inoculations. The hopes entertained at one time of the method of glycerinising bile as advocated by Dr. Edington have proved fallacious.

Cape Town.

ACUTE NECROTIC CELLULITIS OF BOTH ORBITS.

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AND

HAYDOCK WILBE, M.D. DURH., L.R.C.P. LOND.

THE interest of the following case lies in the extreme severity of the local inflammatory process and in the absence of any discoverable cause.

The patient, aged sixteen years, was employed as a bookkeeper in a poultry shop. On Feb. 5th and 6th, 1898, he first had headache of the left side and blocking of the left nostril. Towards the end of the day on the 6th, he had a rigor. There had been toothache on the same side for some days. There had been no injury. Personally he was a healthy youth and had always been so. One of his sisters, however, about a year before had had acute necrosis of the vermiform appendage within two days of the onset of the first abdominal symptoms. There was nothing else to note in the personal or family conditions. On Feb. 8th the swelling of the left eye began, it increased rapidly on the 9th. The patient's temperature was 102° F., and he became delirious. At 10.30 P.M. on the 9th, the following condition was present. On the left side there was intense dusky congestion of the eyelids and the surrounding skin. The orbital contents were much thrust forward; the eyeball itself was fixed and so much proptosed that the stretched lids scarcely covered it; there was perception of light only. There was some offensive discharge from the left nostril. As a fairly definite sense of fluctuation could be obtained above the eyeball an anæsthetic was given and the orbit was opened at its upper and inner part by an incision about 2 in. long. Deep in the orbit behind the globe was a collection of fetid pus containing fragments of necrotic tissue. The incision was enlarged so as to admit the finger and a careful exploration of the orbit was made. The abscess cavity was in contact with the optic nerve as far back as the apex of the orbit; its walls were perfectly smooth and no swelling or displacement of parts could be felt anywhere; a most careful examination with the finger and probe failed to detect any bare bone. About an ounce of pus was evacuated. The cellular tissue of the orbit was quite grey and dead and there was no bleeding from it. The patient had a restless night afterwards; the temperature was maintained and he continued in a condition of muttering delirium, although quite sensible when roused. On the evening of the 10th anti-streptococcic serum was injected, but it had no effect. On the 11th the swelling of the orbit had increased; the edges of the wound were gangrenous, but the upper lid was less tense. The cornea was quite opaque and compressed into a furrow by the dense edge of the lower lid. As there was a decayed painful tooth in the upper jaw of the same side it was thought advisable to thoroughly explore the antrum and nasal cavities. This was done by Mr. Walsham. The carious tooth was removed and the antrum of Highmore was washed out and found to be perfectly normal; the nose was explored and no bare bone could be found except a doubtful point at the root of the middle turbinated bone; the passage to the frontal sinus was normal and the sphenoidal sinus as far as could be ascertained by probing was normal. At the same time the useless eyeball was excised and the orbit was again thoroughly explored. The only thing found was a small surface of bare bone at the upper margin of the orbit. On the 15th there was no improvement to note. Early in the morning his temperature went up to 107° and he had an access of maniacal delirium. Most of the skin of the upper lid was quite dead and much bare bone could be felt in the roof of the orbit. On the 16th the temperature reached 107°

three times and he had a slight convulsion of the right side of the face. On the 17th the orbital plate of the frontal bone was bare over its whole extent and some œdema of the right eyelids was first noticed. The question was discussed as to whether anything further could be done in the way of exploring for an abscess above the frontal bone; but as the œdema of the right eyelid and conjunctiva indicated a probable involvement of the other eye by way of the cavernous sinus it was decided to do no more. The patient was seen by Dr. Ferrier on the 22nd but no further action was suggested. On the 24th there was great swelling of the right lids with proptosis, gangrene of the lids, and deep fluctuation in the orbit, and there was panophthalmitis indicated by hypopyon and suppuration in the vitreous. The whole of the lymphatic glands of the right side of the face and neck were swollen and fluctuating. The tissues of the left orbit were shrunken and had sunk down, leaving the bare bone of the roof entirely exposed. On the 26th the patient died. Permission for an examination of the body could not be obtained.

The question of interest in the case is, What was the point and manner of infection? At the first view of the conditions in the orbit it seemed impossible to avoid the conclusion that there had been a wound of the skin or conjunctiva, and the patient's employment in a game shop gave a reasonable support to the view that he had been infected by some dead animal matter. Careful examination failed to reveal any wound and no history of injury could be obtained, but inasmuch as no thorough examination of the conjunctival folds was possible, owing to the tense conditions of the parts, this view of the case could not be entirely set aside. The possibility of the orbital inflammation being of a pyæmic nature secondary to some focus elsewhere in the body was negatived by careful examination. The next possible source of infection was a suppuration in the antrum started by a carious tooth and communicating itself to the orbit. There was no swelling or tenderness of the antrum, but to set the matter at rest the tooth was removed and the antrum was explored.

Taking the other nasal cavities in order the size and position of the sphenoidal sinus made it clearly possible that an empyema in it might find its way into the orbit; if any foul retention had been found it would not have been difficult to break through the thin partition of bone after enucleation of the eye, but a probe introduced into the cavity from the front did not reveal any abnormality. Similarly the naso-frontal passage did not reveal any abnormal condition of the frontal sinus. With regard to all the sinuses it is improbable that a retention of discharge giving rise to an inflammatory process of such intensity in the orbit could exist without revealing itself by external marks in the neighbourhood of the sinus itself.

It is unfortunate that the case could not be cleared up in the only way which was possible, by a post-mortem examination, but there had been such widespread involvement of all the parts in the neighbourhood before the end that it is more than likely that nothing would have been discovered which would have definitely settled the question of cause.

Orbital cellulitis of this degree of severity resulting in acute necrosis of all the contents of both orbits is fortunately not a common occurrence; among the easily accessible records there does not appear to be a similar case. True orbital cellulitis is always a serious disease and always calls for a guarded prognosis; the thinness of the bony partition separating the orbit from the cranial cavity allows a possible extension of the inflammatory process to the meninges in one direction, while in another the blood-flow from the veins of the orbit to the cavernous sinus provides for a possible thrombosis of the sinus and general pyæmic infection of the body. In the Transactions of the Ophthalmological Society of the United Kingdom, vol. vi., one case of orbital cellulitis with recovery was reported by Mr. Critchett; in vol. x. another case with death was reported by Mr. Snell; in vol. xv. five cases of plastic cellulitis of the orbit were brought forward by Mr. Lawson. Of Mr. Lawson's patients three died, one had the eye removed, and one recovered with imperfect sight. In one case only the cellulitis extended to both orbits. In four of the cases Mr. Lawson said his impression was that the cause was septicæmia, but in only one case could the original focus be traced—a previous acute tonsillitis. In the last case, in which both orbits were affected, the patient was suffering from pyæmia before the cellulitis began, the cause of the pyæmia being undetermined. It is unfortunate that in none of Mr. Lawson's cases, so much resembling the present one in many of their characters, was a post-mortem examination made. In the discussion which followed the reading of Mr. Lawson's paper Mr. Hulke and Mr. Tweedy narrated their experiences of orbital cellulitis. The chief point of interest to be drawn from the discussion was the advisability of making very free incisions into the parts involved, a proceeding which was thoroughly carried out in the present case.

CANTWELL'S OPERATION FOR EPISPADIAS.

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THE operation of Dr. F. V. Cantwell, of Trenton, U.S.A., by "transplantation of the urethra" for the relief of complete epispadias with infundibuliform opening into the bladder but without extroversion, deserves to be more widely known, and the short record of a case which I have recently cured by it may serve to bring it to the notice of many who had not the opportunity of seeing his original paper in the *Annals of Surgery* of December, 1895. That the operation is either not known or not appreciated as I think it should be is clear from the fact that the most recent book on operative surgery published in this country this year makes no reference to it, and yet the operation is an admirable one alike in its conception and in its practical value for the cure of a most distressing congenital deformity. I have had one case only, but I believe that my friend Mr. Clutton has treated two or three by it with complete success. Dr. Cantwell's paper was illustrated by drawings which cannot be reproduced here, but without entering into moot questions as to the precise cause of epispadias it may be said shortly that the principle of the operation is to dissect up a mucous and submucous flap, composed of the open urethra, from the extremity of the glans backwards as far as possible into the infundibulum, to separate thereupon the corpora cavernosa from each other by blunt dissection, to form a urethral tube out of the aforenamed flap and to secure it in its rightful place beneath the corpora, which are then united together. The infundibuliform opening is closed by prolonging the incisions for the urethral flap so as to surround it, and by suture of the wounded surfaces thus made to bridge over the funnel which leads into the bladder. The result is the creation of a penis modelled on natural lines, with a well-formed urethra on the under side, occupying, that is, its normal relationship to the corpora cavernosa. Furthermore, the effect of the operation is to produce a penis with a natural curve, hanging properly downwards instead of being turned up on the abdominal wall—a penis, in fact, which in the process of growth is calculated to be available for all the possible uses which may be required of it, and which immediately admits of natural micturition. I am indebted to my dresser, Mr. Hughes, for the notes of the case, and both to him and to my house surgeon, Mr. Power, for their intelligent care of the child after operation.

A boy, aged ten years, was first sent to me two years ago by Mr. Havell of Felixstowe, but it was then decided to postpone operation until the parts were somewhat larger, and accordingly he was admitted again on Feb. 22nd, 1898. There was complete epispadias with an infundibuliform opening above the pubes from which urine was continually dribbling. Nevertheless, there was a slight amount of control and the passage of a catheter showed that there was a well-formed bladder. It hurt him too much to attempt to pass the finger. The penis was small and ill developed and was turned upwards so that the glans lay over the mouth of the funnel. When pulled downwards it was seen that the penile portion of the urethra existed as a flat band of bare mucous membrane reaching from the dorsum of the rudimentary glans back to the bladder opening, where it was lost from view. The corpora cavernosa clearly were there, but they occupied the under side of the organ. There was a good scrotum and both testes were to be found in it. An attack of measles delayed operation until May 18th, when as a preliminary step an opening was made in the perineum and a Watson's silver

tube inserted in order that after the plastic operation the parts might be kept entirely free from the contact of urine. From this time forth the boy lived night and day in a warm boric bath, a procedure which I do not doubt contributed largely to the success of the operation as well as to his own comfort. The perineal tube answered admirably and he never complained of it. The plastic operation was undertaken on May 20th and presented no difficulties save such as were entailed by formation of the urethra and accurate suturing. The urethral flap having been freed from the corpora cavernosa on which it lay was moulded into a tube upon a catheter, fine catgut being used for the sutures. The corpora cavernosa were separated from each other with singular ease, and their subsequent union, together with the fixation of the new urethra in its rightful place beneath them, was made with finest silk. Finally, the skin along the whole length of the penis and over the infundibuliform opening was sutured with silkworm gut. A soft catheter was then passed by the natural route into the bladder, secured, and left there. Everything went well after the operation, but on May 24th there was so much œdema of the scrotum that I made several punctures in it, the perineal tube was removed, and one or two of the dorsal silkworm stitches were taken out because of obvious tension. The soft catheter was also taken out, cleaned, and re-inserted. More sutures were removed on May 26th and by June 1st the perineal wound was healed. Already the child had gained considerable control over the passage of the urine and emptied his bladder at will through the retained catheter. He was still kept in the bath. By June 8th the retained catheter was discarded and the urine was drawn off twice a day, not with the object of emptying the bladder, but of obviating a tendency to contraction at the meatus. Removal of the boy from the bath for a few hours revealed slight leakage at the infundibulum, and accordingly on June 18th a small plastic operation, which need not be specially described, was undertaken for the closure of the tiny orifice which was alone the cause of it. This was successful, and after a few days longer in the bath the child was recorded on July 1st as being able to retain his urine for seven hours, as passing it naturally, and as being perfectly dry throughout the day. When discharged on July 7th it was noted that he was able to retain his urine all night and the only defect, if so it may be called, in the result of the operation was a slight tendency to contraction of the meatus, for which the daily passage of a catheter was recommended. The latest reports of his condition are in every way favourable and he is now regularly at school.

It may be said that the result of the operation far exceeded our expectations, and while but small experience can be gained from one case only I feel nevertheless that the record of it may be of use in calling the attention of surgeons to an operation of unquestionable value for the treatment and cure of a malformation so grievous and distressing as that of complete epispadias.

SOME MALFORMATIONS MET WITH IN THE POST-MORTEM ROOM.

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DURING the eighteen months from March, 1897, to September, 1898, when I was pathologist to the General Hospital, Birmingham, I noticed several malformations which are worthy of being placed on record. The number of post-mortem examinations during that period was 394.

MONSTERS.

Anencephalus.—There was one anencephalic monster which presented the usual features.

Sympus.—There was one "siren monster" of the variety sympus dipus. It was a full-term fœtus and the upper part of the body was perfectly well formed. The lower limbs were united as far as the bases of the little toes, the union consisting of skin and subcutaneous tissue. There was no anus and the external genitals were represented by a semicircular tag of skin ¾ in. in diameter. There were many malformations of the viscera, which will be noticed under their respective headings.

HEART AND BLOOD-VESSELS.

Absence of pericardium.—There was one instance of this very rare anomaly. It was in an adult woman who died from septic peritonitis following on suppurating ovaries. The heart lay in contact with the base of the left lung, the serous membrane passing directly from the base of the heart on to the root of the lung. On lifting up the heart a trace of the division of the pleuro-pericardial cavity into two could be seen in the form of a fold extending from the lower left pulmonary vein to the diaphragm just to the left of the inferior vena cava. This fold projected ¾ in. into the cavity. The left phrenic nerve passed along the front wall of the cavity behind the sternum in front of the aorta and right auricle, and reached the diaphragm at the same point as the fold above mentioned; it then passed along the upper surface of the diaphragm and entered its substance at the usual place. The heart itself was normal.

Deficiency of inter-ventricular septum.—This was in a male, aged twenty-three years, who died from acute phthisis. The right ventricle was enormously hypertrophied, the left being much smaller than usual. The deficiency was at the upper part of the septum, the aorta appearing to arise equally from both ventricles. The foramen ovale was closed and the aortic and pulmonary valves were normal. There was no stenosis of the pulmonary artery. The ductus arteriosus was patent.

Deficiency of the aortic valve.—In one case the aortic valve consisted of two curtains only, both coronary arteries arising from behind one curtain. Both curtains were the seat of recent infective endocarditis.

Excess in number of curtains of the pulmonary valve.—In one case there were four curtains in the pulmonary valve. The extra curtain was situated anteriorly and to the right and was smaller than the other three, which were equal in size. All the curtains were healthy and well formed.

Malformation of the tricuspid valve.—In one heart the tricuspid valve presented an unusual malformation. In the middle of the posterior curtain there was an aperture ¼ in. in diameter. This aperture was provided with two small curtains to which were attached chordæ tendineæ, which arose from the inter-ventricular septum. The valve was apparently quite competent.

Left superior vena cava.—In the "siren monster" the left innominate vein ended in the coronary sinus of the heart.

Persistence of the left posterior cardinal vein.—In this case, which was associated with malformation and malposition of the left kidney, the left common iliac vein immediately after the junction of the internal and external veins divided into two. The smaller branch pursued the ordinary course and the larger passed under the left common iliac artery and passed upwards on the left side of the spine. At the level of the third lumbar vertebra this latter vein gave off a communicating branch to the inferior vena cava which passed behind the aorta. It then passed into the thorax and continued as the hemiazygos vein, which was very large. At the level of the disc between the third and fourth lumbar vertebræ this vein received a large tributary which, originating in the left phrenic vein, received in its course the left suprarenal, ovarian, and renal veins. There was another renal vein which passed over the left common iliac artery to enter the inferior vena cava at its commencement.

ALIMENTARY SYSTEM.

Duodenal pouches.—In one case (an adult female) the duodenum presented two distinct pouches. One of these was situated at the site of the papilla, the pancreatic and common bile-ducts opening into it; it was ¼ in. deep. The other was just above this on the posterior wall of the duodenum and just below the opening of the accessory duct of the pancreas; it was ¾ in. deep and would admit the index finger.

Meckel's diverticulum.—This anomaly occurred four times. In each case it was situated between 2 ft. and 3 ft. above the ileo-cæcal valve. The diameter was about 1 in. and the length varied from 1 in. to 2½ in.

Absence of rectum.—Absence of the rectum and anus occurred in the "siren monster," the sigmoid flexure ending at the brim of the pelvis in a blind extremity.

Imperforate anus.—This occurred twice. In one there was no anal invagination and the rectum terminated close to the

skin. In the other the rectum terminated at the tip of the coccyx and was separated from the anal invagination by a thin membranous septum.

GENITO-URINARY SYSTEM.

Absence of genito-urinary apparatus. — In the "siren monster" there was no trace of kidneys, ureters, bladder, urethra, or genital glands.

Defective development of one kidney.—In one case the left kidney was represented by a little mass of connective tissue in which the microscope failed to reveal any renal tissue. The renal vessels were represented by a minute artery and vein passing into this tissue. The ureter, which was only pervious for 1 in. at its lower extremity, could be traced upwards as a fibrous cord which was lost in the mass of tissue.

Horseshoe kidney. — Three cases of horseshoe kidney occurred, the union in all consisting of true renal tissue; each had two ureters. The vessels were normal in two of them and abnormal in the third.

Malformation and malposition of kidney.—In a boy, aged seventeen years, who died from phthisis, the left kidney was large, weighing 5 oz.; the hilum was placed anteriorly. It was in the normal position. The right kidney was in the right iliac fossa and was circular in shape. Viewed from the front it had the appearance of two kidneys, one above the other, with their hila adjacent. The pelves of the two halves were distinct and were united by a canal of the size of a ureter which was ¼ in. long; the ureter arose from the lower pelvis and passed in front of the lower half. Posteriorly the kidney presented a uniform surface except for a transverse sulcus, in which ran an artery. Each half of the kidney had its own vein, which entered the inferior vena cava. There were two renal arteries arising from the aorta just above the bifurcation; one passed to the front and divided into two, one branch going to each half. The other passed along the sulcus at the back of the kidney and after giving off branches into its substance passed round the outer edge to end in the outer side of the hilum. This kidney weighed 5 oz. The suprarenal body was in the normal situation.

Another case similar to this occurred in a woman, aged forty-four years. It was associated with the persistent cardinal vein above mentioned. The right kidney was normally placed and was normal in size and structure. The left kidney was in the left iliac fossa and resembled the last one almost exactly except that there was one pelvis common to the two halves. One artery arose from the aorta just above the bifurcation and passing to the back of the kidney entered a transverse sulcus in which it passed to the outer edge, round which it turned to end in the outer side of the hilum. Another artery arose from the sacral aorta and passing in front of the left common iliac artery entered the hilum from the front.

Uterus bicornis.—One case of uterus bicornis was recorded. The two horns were ½ in. long. The cervix and the main part of the body of the uterus externally appeared single. There was a septum in the body of the uterus dividing it into two halves. The cervix and the vagina were single.

I am indebted to the honorary staff of the hospital and to Mr. W. E. Bennett for permission to publish these notes.

THE OCCURRENCE OF RHEUMATISM IN CHILDREN SUBSEQUENT TO AN ATTACK OF CHOREA.

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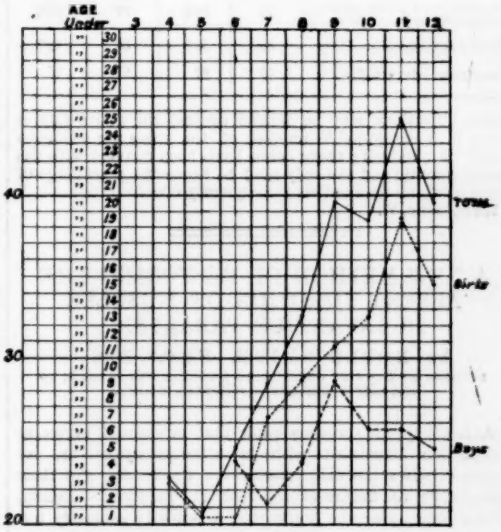
ON the occurrence of rheumatism previously to the onset of chorea numerous tables have been compiled and among the more recent an analysis of 327 cases by Fletcher[1] showing that 26 per cent. of cases suffer from rheumatism previously to the onset of chorea. His figures agree closely with those of S. Mackenzie, who gives 29 per cent., and the majority of observers place the percentage between 25 per cent. and 30 per cent., only Sturges places it as low as 20 per cent., and Sée and Hughes at 48 per cent. and 65 per cent. respectively.

Some time ago, at the suggestion of Dr. Lees that it would be of interest to find out what percentage of choreic children subsequently develop rheumatism, the following analysis was made of cases of chorea discharged from two wards of the Hospital for Sick Children, Great Ormond-street, under the care of the late Dr. Sturges and Dr. Lees during a period of two and a half years—viz., from January, 1892, to June, 1894. During this period 115 cases were discharged from the hospital. Of these 115 cases, in 78 (67·8 per cent.) there was no history of previous rheumatism, while in the remaining 37 (32·2 per cent.) there was some evidence of the patient having previously suffered from rheumatism. The chart shows the age and sex of the children affected.



The abscissæ show the number of children and the ordinates the ages of the same. The dotted line shows cases in girls and the broken line cases in boys.

In July, 1895—i.e., a year after the last patient and more than three years after the first patient had left the hospital—postcards were sent to these 78 cases requesting that they would attend the hospital, or, in some cases where the distance was great, that they would reply to certain questions by postcard. Of these 78 cases, 34 were examined and 23 replied by letter, a total of 57 cases; 19 gave no reply; 2 had died, 1 from scarlet fever and 1 from meningitis. Of these 57 cases there was evidence of rheumatism in 11; in 2 others, although there was no history of rheumatism, nodules were present and well-marked cardiac lesions, and this I consider a definite rheumatic manifestation, although at variance with a statement of Osler in his book on Chorea, p. 16—i.e., 13 cases in all. Of the above 13 cases 2 had attacks of pericarditis with rheumatism and were treated in the hospital, the first after the third attack of chorea and the second six months after the first attack of chorea. Thus 11·3 per cent. of cases without previous rheumatism developed rheumatism within three years.

In July, 1898 (three years later), cards were sent to 44 out of the 57 cases—i.e., to all those who had not had rheumatism up to July, 1895—and from whom a reply had been previously obtained. Of these 44 cases 29 were either seen or heard from. Of these 29 cases 18 had had no rheumatism; 10 had had rheumatism (4 cases were designated as rheumatic fever and 6 cases as rheumatism); and 1 had died from heart disease in the London Hospital. That is to say, there was evidence of rheumatism in 11 of the 29 cases, a further increase of 9·7 per cent., making a total of 20 per cent. within six years. Whipham[2] found that chorea preceded rheumatism in less than 2 per cent. of all cases, while in the present series the percentage amounted within three

[1] St. Bartholomew's Hospital Reports, vol. xxxii., p. 383.

[2] Quoted from Osler: Chorea, p. 15,

years of the chorea to 11·3 per cent. and in six years to 20 per cent. In the Report of the Collective Investigation Committee of the British Medical Association on Chorea, 1887, under heading 16, "The Occurrence of Rheumatism during or immediately subsequently to the Attack of Chorea," it is found that 56 out of 439 cases, or 12·7 per cent., suffered from rheumatism during or immediately subsequently to the attack of chorea, but in only 26 of these cases was the attack of rheumatism the first attack—i.e., in a little under 6 per cent. The following table is a summary of the above 115 cases:—

Date.	No rheumatism.		Rheumatism.	
	Number.	Per cent.	Number.	Per cent.
On admission (from January, 1892, to June, 1894) ...	78	67·8	37	32·2
Three years later (July, 1895)	65	56·5	50	43·5
Three years later (July, 1898)	54	47	61	53

Some objections may be lodged against the above figures since in a considerable number of the cases no evidence could be obtained; these cases have been counted with the non-rheumatic and can only tend to lower the percentage of cases in which rheumatism subsequently occurred.

Harley-street, W.

A NEW METHOD OF RESTORING THE ABSENT FUNCTION OF MUSCLES IN INFANTILE PARALYSIS.

BY NOBLE SMITH, F.R.C.S. EDIN.,
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ALL orthopædic surgeons know that in cases of muscular contraction associated with infantile paralysis—as, for instance, when the calf muscles are contracted and their antagonists, the flexors of the foot, are paralysed—division of the tendons of the contracted muscles is generally followed by improvement in the nutrition of the whole foot. In such a case as I have suggested division of the tendo Achillis not only permits restoration of the foot to a natural position, but it also frequently brings about an increased warmth of the skin and subcutaneous tissue and presumably of the paralysed muscles also. Very little notice has been taken of this improvement in nutrition and when noticed at all the result has generally been attributed to the increased movements of the parts which the release of the contraction has permitted. This explanation does not seem satisfactory for the following reasons. I have found that the almost immediate effect of tenotomy of the tendo Achillis, with as much reduction of the deformity as possible at the time of operation, has set up a distinct increase in warmth of the part the day after operation. This increase in warmth has continued permanently, or at least if it has subsided slightly after a few days yet it has remained distinctly apparent during the period of from two to three weeks or more whilst the foot has been kept absolutely quiescent, and the warmth has continued afterwards as a permanent benefit. Mr. William Adams referred to this subject in his post-graduate lectures published in 1893. He stated that the result "might be due to a certain amount of muscular action taking place in the muscles not contracted, after the tendons of the contracted muscles had been divided." But he remarked that Dr. Brown-Séquard, to whom he mentioned the occurrence, had said that he "believed it to be due to a direct reflex action of the spinal cord, and that a local increase of temperature probably followed all surgical operations, but it would be most observable in cases of paralysis."

We know well that additional warmth, whether produced by external heat or by friction, massage, stimulating liniments, or by any other means, has a beneficial effect upon a paralysed limb, and will help materially in restoring the functions of the paralysed muscles. That is to say, if a muscle is not completely and absolutely paralysed, or perhaps it would be more correct to say that if the nerve-supply of a paralysed muscle or muscles as well as the muscles themselves is capable of improvement, additional warmth of the part will greatly assist in such restoration of power. This being so, it is not surprising that, whatever may be the explanation of the increased warmth following the tenotomy, the result of such increased temperature must act beneficially upon the paralysed parts. Further, it seems probable from the rapid improvement in function of the neighbouring muscles which sometimes occurs that some more direct influence upon the nerves or muscles must take place. After tenotomy of a contracted muscle, in cases in which other muscles have been so far paralysed that they have been beyond the possibility of amelioration, there has yet been a permanent improvement as regards warmth and nutrition. In many instances where the limbs have been cold, blue, and with a tendency to ulceration these symptoms have to a great extent disappeared and almost invariably the skin has lost its blueness.

Operation on the paralysed muscles.—The idea occurred to me that if tenotomy of a sound muscle was capable of producing so much improvement in nutrition in a neighbouring muscle weakened by paralysis, how much more direct an influence would tenotomy of the affected muscle itself have. Acting upon this idea I have operated in this way on two patients whose histories I will now record.

CASE 1.—A girl, aged seven years, was brought to me on Nov. 10th, 1897. Two years and three months previously she had been suddenly attacked by infantile paralysis. There was said to have been complete motor paralysis from the waist downwards, but this began to pass away rapidly, so

FIG. 1.

Extent of possible flexion before operation.

that in less than a week the patient was able to sit up. The functions of the bowels and bladder were very feeble at first but became normal at the end of five days; sensation was perfect from the first. She had been under the care of Dr. Suckling of Birmingham and had been treated by massage and electricity. At the time of my examination I found the left leg feeble in all its movements, the extensors of the toes

FIG. 2.

Extent of possible flexion after operation.

(flexors of the ankle) were apparently entirely paralysed, and there was contraction of the calf muscles, so that in walking the heel did not touch the ground. The left leg (measured at the internal malleolus) was ½ in. shorter than the right, and when the foot was flexed as much as the contraction

would permit there were 1¼ in. between the heel and the ground, as indicated by the line A B at right angles with the vertical axis C D of the leg and on a level with the ball of the great toe, as shown in Fig. 1. The right leg was quite strong, all the muscles acting well. Before operating I requested Dr. Risien Russell to see the patient and he reported as follows: "All the muscles of the left leg respond to Faradaism with the exception of the tibialis anticus and extensor longus digitorum, neither of which muscles respond even to a painful current, and one which when applied to the motor points of these anterior muscles results in marked contraction of the soleus and gastrocnemius on the posterior aspect of the limb. All the muscles which respond to Faradaism also react to galvanism, K.C.C. being greater than A.C.C.; but in the anterior tibial group only an exceedingly feeble response is obtained (A.C.C. greater than K.C.C.) with a very strong current, and one which, applied to the anterior aspect of the limb, evokes marked contraction of the soleus and gastrocnemius. The examination thus shows that there is most pronounced reaction of degeneration in the tibialis anticus and extensor longus digitorum, while the quality of the response from the other muscles of the leg is normal." On Nov. 12th I divided the tendo Achillis of the affected leg; I also divided the tendons of the tibialis anticus, extensor proprius pollicis, and extensor longus digitorum. In the case of the latter muscles, which were considered to be paralysed, there was some difficulty in isolating their tendons. On the 20th I removed the bandage and tried the action of the foot. Upon directing the patient to try to move her foot there was distinct movement of the tendons of the muscles which had previously seemed paralysed. Being so soon after the operation I did not allow more than the slightest effort to be made by the patient. On the 24th Dr. Risien Russell again examined this patient and verified the fact of this restoration of muscular power. The patient made an excellent recovery and has since been walking about with a light temporary support.

One cannot imagine that after two years and three months from the time of the attack of infantile paralysis, seeing that the reaction of degeneration was present, it would

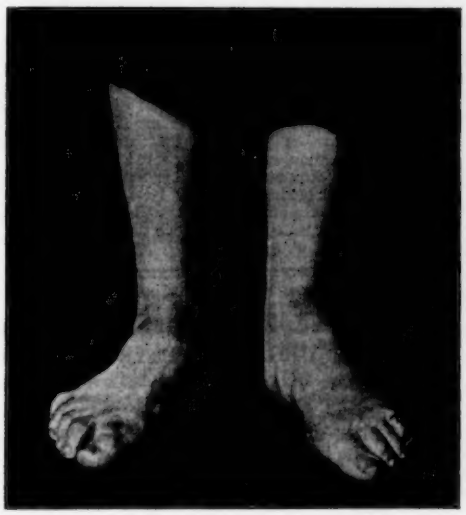
FIG. 3.

Showing the size of the paralysed leg in comparison with that of the sound one.

have been possible, under any ordinary treatment, to obtain restoration of function. Therefore I think we may assume that the operation upon the tendons of the paralysed muscles was the direct means of restoring that power.

CASE 2.—On Nov. 21st, 1895, a girl aged eleven years, was first brought to me. She had suffered from an attack of infantile paralysis at the age of three months and had been subsequently operated upon for contraction of the calf muscles. I was told that during recent years she had got very much worse as regards ability to get about, the left leg being almost useless to her. The left leg was much smaller than the right and deformed, as shown in Fig. 3, and the patient was unable to extend the foot beyond the position there shown. Two years previously to her visit to me she had given up wearing iron supports and the foot had been getting much more deformed. I found there was 2½ in. shortening of the limb, measuring from the heel to the ground, and the leg below the knee was very cold and blue. The extent of the paralysis was as described below. By means of apparatus she was enabled to walk about with comparative comfort and I only saw her at long intervals. On Oct. 22nd, 1896, I divided a band of the internal lateral ligament which held the foot in the varus position and I was then able to lessen the amount of deformity considerably. On Nov. 3rd, 1897, the patient was walking better, but I found the foot and the lower half of the leg very cold and the circulation very feeble. Ulcers were almost constantly forming and healing up again. As so much benefit in position had been obtained by the cutting of the lateral ligament I thought it worth while to operate

FIG. 4.



Present condition, both feet resting flat on the ground.

on the tendo Achillis and at the same time to divide the tendons of the paralysed muscles. I asked Dr. Althaus to examine the patient first and he reported as follows: "Nov. 3rd, 1897.—1. *N. tibialis.* (*a*) *Faradaism.*—No response on application to the nerve at the back of the knee-joint or to the motor points of the gastrocnemius, soleus, plantaris, flexor digitorum communis, and flexor hallucis longus. (*b*) *Constant current.*—Anodic opening contraction (A.O.C.) absent up to 15 milliampères in the nerve and muscles above mentioned. Kathodic closing contraction (K.C.C.) slightly present between 10 and 15 milliampères. A few voltaic alternatives cause this response to be diminished. 2. *N. peroneus.* (*a*) *Faradaism.*—Fair response with 8 R. A. Stower's induction coil on the nerve, and on the motor points of the peroneus longus and brevis, the extensor digitorum communis, the tibialis anticus, extensor hallucis longus, and the interossei dorsales. (*b*) *Constant current.*—Slight A.O.C. on application to the nerve and the motor points of the muscles, and stronger K.C.C. in the same, with 10 milliampères." In operating I divided the tendo Achillis (muscle acting soundly) and the tendons of the tibialis anticus, extensor proprius pollicis and the extensor longus digitorum (apparently paralysed), and I also broke down some very firm adhesions which prevented the free movement of the tendo Achillis. On Nov. 24th, three weeks after the operation, I found the leg and foot quite warm, the foot

in excellent position, and a great improvement in the action of the muscles." Dr. Althaus reported again as follows: "Nov. 24th, 1897.—Farado-muscular response increased in the sphere of the peroneal nerve, especially tibialis anticus, extensor digitorum, and extensor hallucis longus. No other marked change." Her present condition, Oct. 5th, 1898, is as follows (Fig. 4). The patient is now able to walk about with only a very slight limp and suffers no inconvenience. She wears a light apparatus to take the place of the weak anterior muscles and only requires ¼ in. extra thickness on the heel and sole of the left boot. The foot and leg are well nourished and she has never suffered from chilblains or ulcers since the last operation. Dr. Althaus saw her this day and reported that "the leg seems altogether better. Electrically less current strength is required to cause muscular action."

It will, of course, require far more experience than that derived from the above cases to enable us to form a fair estimate of what may be expected from division of the tendons of paralysed muscles. It is obvious that such a procedure cannot be expected to restore action in muscles which have become absolutely degenerated, nor can we expect paralysed nerves to be capable of regaining their function. It seems certain, however, that the significance of what is called the "reaction of degeneration" must be modified, for it would appear that this symptom does not prove that no power of recovery exists. The results in the two cases recorded above are so definite that I cannot see any other explanation of the benefits derived than that suggested. The advantages are obvious and great. In the first case it means the difference between the child being absolutely cured in a few months and having to wear some mechanical support for the rest of her life. In the second case, although some weakness remains, yet the improvement is very considerable, and I would further point out that this improvement is distinctly more than could be expected as the result only of making the joint more free. I could record other cases in which apparently similar results have been obtained, but as no electrical examination was made before operation I prefer to limit my report to the above two instances.

Queen Anne-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A RARE, IF NOT UNIQUE, FRACTURE OF THE TIBIA.

BY LEONARD MOLLOY, M.A., M.D. DUB.,
HONORARY SURGEON TO THE VICTORIA HOSPITAL, BLACKPOOL.

THE patient was a man, aged sixty-five years. On May 19th, 1897, while getting into his cart with his right foot on the step his pony started. He endeavoured by hopping along on his left foot to keep pace with the pony and so clamber into the vehicle, but while so doing he fell away from the trap on to his left side. He felt that he had sustained an injury to his left knee and found that he could not stand. He was removed to hospital where he came under my care. The knee-joint was enormously swollen and it was exceedingly difficult to localise the injury, but I came to the conclusion that there was an almost vertical fracture through the head of the tibia, opening, of course, into the joint, and that the greater part of the external tuberosity, with the fibula attached to it, was separated from the head of the bone. There was no fracture of the fibula. The difficulty of diagnosis was increased by the fact that there was shortening of the affected limb to the extent of 1½ in., but this I was enabled to satisfy myself was due to a fracture of the left femur which the patient had sustained in childhood and for which he had been treated in Genoa. The limb was put up on a Lawrence's back splint and so treated throughout. An attempt was made to take a radiogram of the injury before the effusion into the joint had subsided, but it was unsuccessful. Later, however, a radiogram was taken by Mr. T. D. Whittington of this town, of which a reduced reproduction of the photographic print is annexed. The photographic plate was placed behind the knee. From measurements made on the original radiogram it appears that the fracture ran from a point on the articular surface of the head of the bone, 2½ in. from the internal border of the internal tuberosity, almost directly downwards for 2 in., when it came flush with the shaft of the bone and so separated the major portion of the external tuberosity. This fragment could be moved antero-posteriorly, when the resulting crepitus gave one the idea of two broad surfaces rubbing one upon the other. I am quite sure that there was

Radiogram showing deformity of head of tibia resulting from fracture.

no other line of fracture in the head of the bone. Heydenreich's plate of an injury to the "head of the tibia with division of the superior extremity into *many* pieces" shows a W-shaped line of fracture, one of the limbs of which takes exactly the line which, I believe, was present in the above case, the cause being, as in this, concussion of the tibial head by the femoral condyles. I am unable to find a record of a similar case to the above. The patient is now able to walk as well as he did before the accident. On measurement with callipers I found that there was broadening of the head of the tibia from side to side to the extent of ¼ in.

Blackpool, Lancs.

SUCKLING A CAUSE OF ABORTION.

BY T. M. CALLENDER, M.B., C.M. EDIN.,
LATE RESIDENT SURGEON ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL, EDINBURGH.

I THINK the following case of abortion of interest on account of the cause which I attributed it to—viz., suckling.

The patient, a woman, aged about thirty years, who had had five children, was well-developed, strong, and healthy, with nothing abnormal in her previous menstrual history. There was no history of endometritis or of specific illness. Her first child was born seven years ago and her last twelve months ago. All her labours were normal except the last but one, when the child was stillborn. It was a breech presentation and there had been some ante-partum hæmorrhage two months before birth. There were no previous miscarriages. Since the last child was born she had one menstrual period, three months ago; she missed the next period and at the date when she should have had her third period she began to suffer from uterine pains and hæmorrhage. She had suffered from morning sickness during the last month. Her breasts were large and full of milk, which was watery in

consistence. I was sent for on the third day of the hæmorrhage and found abortion to be inevitable. I packed the vagina with iodoform gauze and gave ergot. A two months' abortion came away entire. In trying to discover the probable cause of the abortion I could find none save the fact that the patient was in the habit of putting her baby to the breasts three or four times daily. On making careful inquiry I found that the pains began while the child was at the breast, and that the next time she put the child to the breast the pains increased in severity and were followed by hæmorrhage. I have no doubt but that in her case the uterine contractions had been set up reflexly through putting the child to the breasts and that the contractions had been sufficiently powerful to bring about the miscarriage. Playfair in his "Midwifery," quoting Tyler Smith, states that suckling as a cause of abortion is not infrequently met with.

Sidcup, Kent.

CONCURRENT ERUPTION OF MEASLES AND CHICKEN-POX.

By H. W. WEBBER, M.D. Lond.

A BOY, aged four and a half years, was seen first on July 12th, 1898; he then presented the appearance typical of commencing measles, rash in moderate amount on the face and behind the ears, with a few scattered spots on the trunk and limbs, coryza, sore-throat, and bronchial catarrh. On July 13th the rash had come out plentifully and cough was troublesome. On July 15th an eruption of papules made its appearance and by the next day these developed into the vesicles characteristic of chicken-pox. Both eruptions ran their normal course, the measles rash fading gradually and ending in a fine desquamation, that of chicken-pox terminating in the usual scabs.

Plymouth.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF EXTREME DEFORMITY OF THE LOWER EXTREMITIES; OPERATION.

(Under the care of Mr. W. H. BATTLE.)

THE following case well illustrates two points of importance. The first is the very great amount of atrophy and deformity which may occur as the result of general malnutrition in an adolescent; and the second is the marked improvement which in such cases follows multiple osteotomy and attention to the general health. It is difficult to say what, if any, special dyscrasia led to the replacement of so much of the bone by fatty tissues.

A woman, aged twenty-one years, was admitted into the Royal Free Hospital on Nov. 26th, 1895, under the care of Mr. Battle. Until she was sixteen years of age there was nothing wrong with her legs. At that time she was working in a warehouse, where she had to stand about eight hours a day, and her right leg began to be painful and to swell. About a year later she noticed that it was getting out of shape and she left the warehouse and took a place as housemaid, but here also she was much on her feet and her right leg grew worse. She was admitted into the Westminster Hospital and Mr. Davy "took a piece of bone out of the right leg," which had become bowed inwards, and it was put up in plaster. At that time the patient thought the left leg might have been very slightly bowed outwards, but it gave her no trouble. She remained in the Westminster Hospital for three months and when she came out her condition was at first much improved, but about two months after leaving off the plaster the leg began to get painful again. The pain in the right leg compelled her to lean more on the left leg and that soon began to give way. In December, 1894, she had to take to a crutch and gave up work as a housemaid, though she continued to do other work which did not require kneeling. In March, 1895, the pain had become so much worse that she gave up work entirely and since then had done none. The family history was indefinite and unimportant. The patient on admission was fairly healthy in appearance and presented no abnormality beyond the deformity of her legs. Both legs were greatly altered, the right knee was strongly bent inwards towards the left (genu valgum), and the left knee was equally strongly inclined outwards (genu varum). In the right knee the inner condyle of the femur reached a distinctly lower level than the outer condyle and the ligaments were much loosened. The right femur had a marked curve with its convexity forwards. The head and upper 4 in. of the tibia were bent backwards and formed a curve with its concavity forwards with the rest of the bone, which was fairly straight. Just below the concavity were two scars, each about half an inch in length. This was the place from which, according to the patient, a piece of bone was removed at the Westminster Hospital. When lying with the thigh in the natural position and the knee extended the internal malleolus was 9 in. to the right of the middle line. The knee was greatly deformed, its antero-posterior diameter being much greater, and its transverse diameter less, than the corresponding diameters of the opposite side. The left femur was bowed outwards and the left leg was much rotated inwards; the ligaments of the left knee-joint were loosened to some extent, but less than the right. When the patient lay with the knee extended the left external malleolus was 3 in. to the right of the middle line. The patient could stand alone when placed on her feet, though not firmly, but she was unable to walk without a crutch or some other support. On further examination it was evident that some slight amount of movement could be obtained in the upper end of the shaft of the right tibia and Mr. Battle thought that the union after the last operation was probably fibrous. He therefore ordered long outside and back splints in the hope that some of the deformity might thereby be removed; an iron tonic was also given. She had a slight feverish attack on Dec. 24th but soon recovered from it. No obvious improvement having occurred, on Jan. 10th, 1896, Mr. Battle operated on the left leg. An incision about half an inch long was made on the inner side of the left thigh about a finger's breadth above the internal condyle and carried down to the bone and with a chisel the bone was divided; very little force was required for this as the bone was soft and very vascular. The wound being closed with a pad the leg was wrenched into a very good position, the femur being practically straight. A second incision was made about two inches below the tubercle of the tibia over the internal surface of the bone and this bone was divided in a similar manner; it was even softer than the femur and as the chisel was being driven in the medullary fat oozed out of the wound. The tibia was put straight and all deformity removed except a slight inward rotation of the foot. The limb was put up in a plaster-of-Paris splint which extended from the hip to the toes. Very little pain followed the operation. On Jan. 28th Mr. Battle operated on the right leg. An incision 1 in. long was made on the inner side of the right thigh, commencing about 3 in. above the level of the upper border of the patella; it was carried down to the bone and a Macewen's osteotome having been introduced the bone was partly chiselled through and then broken. As the bone was being cut into some oily fluid exuded from the wound. The tibia was then treated similarly through an incision about 2 in. below the lower margin of the patella and a little internal to the middle line at the same place at which the previous osteotomy had been done. The position of the leg still not being satisfactory Mr. Battle decided to divide the fibula and this was done through an incision on the outer surface of the leg about 4 in. below the head of the bone. It was noticed when the bones were being divided that the tibia and fibula were much harder than the femur. The wounds were sutured and dressed and an anterior plaster splint was applied with a long Liston splint on the outer side. The left leg was then examined and considerable external rotation of the foot being found an osteotomy was performed on the tibia in its lower fourth. The left leg was put up in splints in the same way as the right leg. The patient bore the operation well and on Feb. 6th the splints were reapplied. Her

general condition steadily improved and early in March the legs were massaged daily; this seemed to improve their nutrition and movement at the knee became free. On April 22nd an apparatus was applied by which some of the weight of the body was conducted by means of iron rods to the legs and feet, thus saving the knees. The right boot had a thick sole in order to equalise the length of the legs. She was soon able to walk, though at first she was easily tired. The patient was seen from time to time and six months after leaving was shown at a clinical meeting of the Medical Society of London, when her legs were seen to be almost straight and she could walk with ease. She had given up the use of the apparatus, as some of the straps were worn and she found it rather cumbersome. Her general health was greatly improved and she looked much stronger.

Remarks by Mr. BATTLE.—The deformity, as shown in the illustration, was very great and disabling, so much so that

Shows a view from the front of the extreme deformity of the lower extremities, the patient standing, as usual, with the aid of her crutch.

the girl could neither stand (except for a short time) nor move without support. It is a little difficult to say how far her pain in standing was due to the strain on the ligaments of the knees and how far it depended on weakness of the limbs. The unusual amount of degeneration of the bones must have been accompanied by corresponding weakness of muscles, whilst her general want of vitality was emphasised by the delayed union in the right tibia. Operation was postponed until the general health had been improved by tonics and good feeding, and when bony union of the tibia had taken place this was regarded as an indication that satisfactory results might be expected after aseptic osteotomy. It is possible that her home surroundings had not been of the best, for at the time of admission there were several superficial sores on the body which soon healed under treatment. She was also at that time somewhat pale-faced and had an anxious expression.

ST. GEORGE'S HOSPITAL.

A CASE OF FRACTURE OF THE TRACHEA AND STERNUM; NECROPSY.

(Under the care of Mr. G. R. TURNER.)

WE have already referred in an annotation[1] to the case reported below, and the fuller details which we publish now confirm the opinion expressed there that as no dyspnœa was present and as the patient survived the injury fourteen days death was probably due to some other condition and not to the rupture of the trachea. Undoubtedly the calcification of the trachea was a great predisposing cause of the lesion, but that the force causing the accident was very great is shown by the extensive injury to the sternum and ribs. It is a point of interest that the backward displacement of the manubrium slowly rectified itself. At least three cases have been recorded of complete rupture of the trachea in which recovery occurred.

An old man, aged seventy-three years, was on Sept. 15th, 1898, admitted into St. George's Hospital. The patient, a night watchman, was resting his chest upon a cross-rail and looking down the shaft of an uncompleted lift, being unaware that the lift had commenced its descent from above. The descending mass came in contact with the back of his head and forcibly flexed his head upon his chest. He was able to walk, but with groans complained of pain in his neck, whereupon an examination was made and the following conditions were found. There was a large hæmatoma over the occipital region without any marked injury to the superficial structures of the scalp, epistaxis was rather free (and subsided early), and there were some bruises over the nose and malar regions. No external marks could be detected on the neck. The sternum was evidently fractured, the manubrium being displaced backwards, and this was associated with fracture of the second and third ribs or their costal cartilages on both sides. There was considerable pain over the præcordia and particularly behind the suprasternal notch; the pain was found to be much aggravated by a full respiratory movement, by slight pressure, or by coughing, the expectoration being accompanied by traces of blood which was at first considered to be of nasal origin, but on examination of the buccal cavity the soft palate to the left of the middle line extending outwards and forwards was found to be lacerated. The pain was unaccompanied by any marked swelling or deformity of the neck; upon palpation of the neck no crepitus was elicited and no emphysema was present. The displacement of the manubrium seemed too slight and the pain caused by the least degree of extension too great to justify forcible extension of the head upon the trunk in order to rectify the displacement; moreover, the likelihood of some deep-seated mischief at the root of the neck militated against such a procedure; no necessity arose for immobilising the head and neck. Very little inconvenience appeared to be caused by this displacement and the condition rectified itself in about nine days. Though the patient had a slight cough and bronchitis and later developed signs of hypostatic congestion of the lungs, gradually sinking to die on the fourteenth day, yet at no time was the respiration much embarrassed and at no time was there any dyspnœa, dysphonia, or dysphagia. The temperature was about 100°F. throughout.

Necropsy.—The post-mortem examination, in addition to corroborating the lesions diagnosed during life, revealed the following conditions: (1) upon removal of the sternum hæmorrhage into the superior mediastinum; (2) transverse fracture of the cartilaginous portion of the trachea through its whole extent about 2¼ in. below the rima glottidis, whereas the membranous portion was not involved and the œsophagus was in no way injured; and (3) fracture of the horizontal plate of the left palate bone. The cartilages of the larynx and trachea were considerably calcified; the fracture of the trachea could be accounted for by forcible compression between the upper border of the sternum and the vertebral column and the fracture of the hard palate by the presence of some such object as a pipe in the patient's mouth at the time of the accident. The surface of the mucous membrane of the trachea over the seat of fracture was continuous but showed evidence of having been slightly injured.

[1] THE LANCET, Oct. 8th, 1898, p. 945.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Exhibition of Specimens.

A MEETING of this society was held on Nov. 1st, the President, Dr. J. F. PAYNE, being in the chair.

Dr. T. CHURTON (Leeds) exhibited a specimen of Thrombosis of the Hepatic Vein. The patient was a man, twenty-six years of age. He had never been strong, but although enlargement in the epigastric region had been noticed for two years he was able to work till a month before death. He then (July 12th, 1898) received a blow on the right side, after which he gave up work but did not seem ill. On August 4th he was seized with diarrhœa and two days later the abdomen began to swell and the superficial veins became distended. On the 10th several pints of blood-stained ascitic fluid were drawn off, and on the 13th an exploratory incision revealed the nature of the case. At the necropsy, some days later, a cirrhotic liver was found and one of the hepatic veins contained dark-red and recent clot. The portal veins were free from thrombosis. The cirrhosis was chiefly monolobular. There was a good deal of formation of new bile-ducts. Dr. Churton did not think the evidence clear enough to prove that the cirrhosis was due to congenital syphilis. No other cause, however, such as lead, malaria, alcohol, dyspepsia, and auto-intoxication, or acquired syphilis, could be traced.—Dr. LAZARUS-BARLOW also showed a specimen of Thrombosis of the Hepatic Vein associated with Cirrhosis of the Liver, probably syphilitic. The specimen was taken from the body of a boy, aged thirteen years, who during life presented the ordinary signs and symptoms of hepatic cirrhosis—viz., hæmatemesis, ascites, and slight jaundice. The veins over the front of the abdomen were much distended. There was no direct evidence of congenital syphilis; the teeth were normal and there was no interstitial keratitis. His mother had had no miscarriages before his birth (her third pregnancy), but subsequently had four miscarriages. At the necropsy there was found a localised suppurative peritonitis. The liver weighed 2 lb. 10 oz. and its surface was granulated and mottled. On the upper surface posteriorly was a large mass of cicatricial tissue which extended 1½ in. into the depth of the organ and involved the hepatic veins about their termination in the inferior vena cava. Numerous branches of the hepatic vein, both large and small, were blocked by partially adherent and in many places decolourised clot. The cicatricial mass suggested a former gummatous condition and its edges ultimately became lost in the form of trabeculæ of fibrous tissue which entered the main substance of the liver. At the same time the branches of the portal vein served as centres for a fibrous tissue overgrowth throughout the organ. Microscopically the liver, even in its apparently most normal regions, showed the existence of a mixed fibrosis in an extreme degree. The greater part of the fibrosis was of the multilobular variety, but much of the intercellular variety was also present. No gummata were found at all. The spleen, which weighed 16 oz., showed a large radiating and central mass of fibrous tissue.—Dr. MORLEY FLETCHER showed the Viscera from a case of Congenital Syphilis presenting certain unusual features. An infant, aged three weeks, was admitted to the Children's Hospital, Shadwell, on account of the large size of the abdomen. The child died when seven weeks old. There was neither jaundice nor œdema during the course of the illness. The liver was found greatly enlarged, hard, and with a mottled surface on section. The right suprarenal body was adherent to its under surface. Both suprarenals were much enlarged and were hæmorrhagic. The changes in the liver were unusual. There was almost complete absence of liver cells and a great amount of dense fibrosis. The most important feature was a very extensive and diffuse infiltration of the organs by round cells with an obvious reticulum of young connective tissue fibres, closely resembling the condition described by Hutinel and Hudelo as "a diffuse embryonal infiltration." This resembled in some respects the appearance of a small round-celled sarcoma and it was suggested that some of the so-called diffuse primary sarcomata of infants which had been described might possibly be of a similar nature.—The PRESIDENT observed that the histology of congenital syphilitic cirrhosis of the liver was not yet quite fixed and that of Dr. Fletcher's specimen did not follow the usual description. He had described a peculiar liver in an earlier volume of the society's Transactions in which there was an interstitial cellular infiltration with formation of fibrous tissue quite unlike that met with in typical congenital syphilitic cirrhosis.—Dr. MORLEY FLETCHER referred to a case reported by Dr. Gee and Dr. West, in the St. Bartholomew's Hospital Reports, in which there was thrombosis of the hepatic veins in a child seventeen weeks old. In that case the hepatic veins could not be traced into the inferior vena cava, the orifice being closed by a thin membrane.—Dr. H. D. ROLLESTON agreed that thrombosis of the hepatic veins was very rare and was due to very varied causes. In the cases described by Dr. Churton and Dr. Lazarus-Barlow the congenital syphilitic changes appeared to be more marked at the orifices of the hepatic veins causing stenosis first and then thrombosis. In one case he had seen the thrombosis extend in from the inferior vena cava. Osler had described a case of thrombosis from stenosis of the orifice of the hepatic veins. Delépine had described a case in which thrombosis occurred from rupture of a softened cirrhotic nodule into a hepatic vein. Cirrhosis from congenital syphilis was not always intercellular, but might be multilobular. Probably some cases described as diffuse sarcoma of the liver in children were syphilitic cirrhosis. Although congenital syphilitic cirrhosis passed off under treatment it left the liver more likely to develop ordinary cirrhosis later.—Dr. CHURTON, in reply, said that the opening of the hepatic veins into the vena cava in his case could not be found.—Dr. LAZARUS-BARLOW said that in his case there was no modification of the entry of the hepatic veins into the vena cava.

Dr. CURNOW exhibited a Skull which was referred to at the previous meeting in a discussion on a specimen of acromegaly shown by Mr. Shattock. The skull was unusually dense, weighing 2 lb. 10 oz. The sutures were very prominent and the skull was markedly dolichocephalic and prognathous. The ridge of origin of the temporal muscles and the insertion of the masseters were very strongly marked and unlike those of any European skull. The frontal sinuses were very large. There was no enlargement of the pituitary fossa and the skull was not acromegalic. There was a tradition that this was an Australian skull, but this was certainly not the case. He regarded it as a normal skull with strong racial peculiarity and thought it was African, but would not like to be more precise.

Dr. HUGH WALSHAM exhibited microscopic sections of Epithelial Pearls in the Tonsils. He thought that some forms of tonsil calculi might be due to the calcification of these "pearls." Others were due to calcification of tubercle and others were probably the bony masses described by him at a previous meeting.

Dr. ROLLESTON showed a specimen of Idiopathic Hypertrophy of the Œsophagus from a man, aged fifty-nine years, who had not had any dysphagia or other symptoms referable to the digestive tract. This was vouched for by the patient's daughter, who had always shared his meals. Three inches below the cricoid cartilage the circular muscular coat began to hypertrophy and increased in thickness towards the cardiac orifice. The longitudinal muscular coat was practically normal. Around the outside of the œsophagus there were numerous adhesions but not of any density or sufficiently firm to account for the hypertrophy. Microscopically there was no evidence of fibrosis on the hypertrophied circular muscular coat. The lumen of the œsophagus was not dilated or narrowed. The stomach was larger than natural and the pylorus was small. The kidneys were granular, the left ventricle was hypertrophied, and the prostate was hypertrophied. No obstructive cause for the hypertrophy being discovered it was called idiopathic. Spasm of the cardiac orifice naturally suggested itself as a cause, but there was no evidence either of cardio-spasm during life in this patient or that hypertrophy of the œsophagus occurred in cases of cardio-spasm. The hypertrophy of the circular muscular coat of a part of the digestive tract immediately proximal to a gastric orifice closely resembled and suggested analogies with congenital hypertrophy of the pylorus in infants.—Dr. NORMAN DALTON asked if there might not have been a narrowing of the œsophagus at the point where it passed through the diaphragm.—The PRESIDENT pointed out that the patient's age excluded congenital malformation. The

limitation to the muscular coat suggested excessive functional activity from some cause. A similar muscular hypertrophy of the stomach for which no cause could be assigned was sometimes met with.

The following card specimens were exhibited:—

Dr. NORMAN DALTON: Dextro-cardia from a boy, aged fifteen years.

Dr. MORLEY FLETCHER: Dilatation of the Left Auricle.

Mr. SHATTOCK: Molluscum Contagiosum in Birds.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Oct. 28th, Mr. LANGTON, President, being in the chair.

Dr. W. S. COLMAN showed a case of Syringomyelia. The patient was a woman, twenty-eight years of age. She had, when a child, never been able to get about like other children, being apt to fall. When seven years old she had painless whitlows and when ten years old her back was noticed to be twisted. She used frequently to burn herself without experiencing any pain. At the present time she was rather stunted and presented the following symptoms: spastic paraplegia with increased reflexes; wasting of the muscles round the shoulder with diminished electric excitability; and wasting of the intrinsic muscles of the right hand with claw-like contraction of the fingers. Sensation to touch was preserved everywhere, but there was loss of sensation to painful sensations over the head, arms, and trunk as low as the umbilicus with the exception of the face, and complete loss of sense of heat and cold as low as the knees. There were also marked lateral curvature of the spine and vertical nystagmus on lateral deviation. Her general health was good.

Mr. JACKSON CLARKE showed a girl, aged three years, suffering from Congenital Subacromial Dislocation of the Shoulder. The humerus was dislocated backwards on to the acromion. The right arm was pronated and movement was limited. There was a history of some difficulty during the labour, but Mr. Clarke thought that the case was one of congenital dislocation and not of traumatic dislocation during birth.

Dr. SIDNEY PHILLIPS showed a boy, aged sixteen years, suffering from Chyluria which had existed for three years. The urine passed after sleep was milky, whether he slept by day or by night. The ordinary urine was clear. The milky urine contained a large quantity of albumin, fat, and granules, which had been described as the "molecular basis of chyle." It was acid and its specific gravity was 1030. The clear urine sometimes contained albumin but at others was perfectly normal. Dr. Phillips was unable to assign a cause. The blood had been examined repeatedly at night but no filariæ had been discovered.

Mr. WATSON CHEYNE showed an example of Repair of the Bridge of the Nose by Rabbit Bone. The patient was a youth who, eight years ago, met with an accident through which he lost large portions of his nasal bones. In January, 1898, Mr. Cheyne raised a flap of skin from the right side of the nose, exposing the periosteum. He then removed the femur from a rabbit, split it into pieces, and simply laid these on the periosteum and replaced the flap. The wound healed without suppuration, and the result as shown to the society was excellent.

Dr. NORMAN DALTON showed a boy, aged fifteen years, suffering from Double Athetosis. There was a history that labour was difficult but not instrumental. The patient walked well until he was three years old. He now presented restless movements of the face, shoulders, and back muscles and there were the typical athetoid movements of the hands when held out. There was rigidity of the lower limbs, particularly marked in the adductors and in the calf muscles, giving rise to some talipes equino-varus. The symptoms were most marked on the right side. There was also some hypertrophy of the muscles of the hand and shoulder.—Dr. J. A. ORMEROD said that he had shown a similar case to the Neurological Society last year. The symptoms in that case were said not to have come on until the boy left school. Both the movements and the spastic condition of the legs were much more marked than in Dr. Dalton's case. The boy had since died, but no post-mortem examination was permitted.

Mr. HERBERT PAGE showed a case of Ankylosis of the Lower Jaw treated by Removal of a Wedge from the Lower Condyle. The patient was a boy, aged nine years, whose jaw was noticed in 1894 to be nearly ankylosed and in 1897 the ankylosis had become complete. Mr. Page had therefore operated with the view of resecting the joint, but finding that the ankylosis was dense and bony he resected instead a wedge-shaped piece of bone from the neck. The boy could now open his mouth widely.

Dr. BERTRAM ABRAHAMS showed a case of Myxœdema in a child, aged seven years. She was unable to walk until five years of age. When six and a half years old she rapidly became fat, her tongue got large, and in twelve weeks she became helpless and unable to feed herself. She was treated with thyroid extract and within 30 days her weight fell from 44 lb. to 33 lb. and she became more active and was able to go to school. The treatment was left off by her parents and the symptoms returned. There was a curious induration of the muscles of the calf probably due to the deposition of mucin.

Mr. A. PEARCE GOULD showed a case of Lupus treated by Thyroid Colloid. The patient was a woman, forty-seven years of age. She had suffered since childhood from tuberculous glands in the neck and in 1879 the glands broke down and lupoid ulceration gradually extended over the face. Afterwards tuberculous disease occurred in the foot, which was amputated, and she had abscesses in various parts. These had all healed before she came under treatment. She then had an ulcer extending right across the face, reaching from the eyelids to the mouth. Mr. Gould's house surgeon, Mr. Mannington, ordered tabloids of thyroid colloid, which were begun in September, 1898, and in three weeks the face had entirely healed over. A single tabloid of the colloid was being still given daily and the scar tissue had become more supple and the ectropion much less marked, and the pain, which was very considerable, had disappeared. Mr. Gould had seen similar but less marked improvement in other cases.—Dr. J. J. PRINGLE confirmed the value of thyroid treatment and considered that the thyroid colloid was better borne than any other preparation. Unfortunately the cases tended to relapse unless the thyroid medication was pursued continuously.—Dr. A. WHITFIELD said he should be inclined to describe the case as one of scrofuloderma rather than as one of lupus vulgaris and he observed that the ulcerative forms of tuberculous skin lesions were more amenable to treatment both by the serum method and by thyroid medication than the pure neoplasm form of lupus vulgaris.

Mr. CHARTERS SYMONDS showed a girl, aged seventeen years, the subject of congenital syphilis, suffering from Gumma of the Tongue. She had previously had gummata in connexion with the ulna and fibula. She had also had syphilitic eye manifestations. It was noteworthy that these gummata developed while the patient was having vigorous mercurial treatment.

Dr. LEONARD GUTHRIE showed a case of Left Hemiplegia associated with Atrophy of the Right Optic Nerve occurring in a woman, twenty-two years of age, who nine days after the birth of a child was seized with convulsions of an ordinary type which were followed by left hemiplegia. She had subsequently had several fits but the paralysis had gradually improved. Three months after the hemiplegia she suddenly found herself unable to see with her left eye and the disc was now in a condition of atrophy. There was mobile spasm of the left arm and leg. The great toe was hyper-extended but the other toe was flexed so that she walked on the knuckles. He thought that the hemiplegia was due to thrombosis of a branch of the Sylvian artery and that the optic atrophy might be the result of retro-ocular neuritis, both probably the result of syphilis.—Dr. R. D. BATTEN said that he had examined the case and thought the cause of the atrophy was uncertain. He thought that embolism and thrombosis of the central artery could be excluded and from the condition of the fields he did not think that retro-ocular neuritis could account for the atrophy.

Mr. CUTHBERT WALLACE showed a case of Bending of the Neck of the Femur in a child, aged three years. The foot was markedly everted. Movements of flexion were free if the foot was everted, but very restricted if the foot was inverted.

Mr. F. C. ABBOTT showed a child, aged five years, suffering from an exactly similar condition. The child had been

unable to walk until the year before and had crawled about on the buttocks. This he suggested had caused the bending, which was in the antero-posterior direction and was not merely a diminution in the obliquity of the neck.—Mr. JACKSON CLARKE pointed out that it was easy to flex the leg up against the body with the feet together and this was the natural position of repose. That, moreover, was the position in which children with congenital dislocation of the hip were often born. He observed that owing to the frequent confusion of coxa vara and congenital dislocation of the hip the statistics previously to the introduction of skiagraphy were absolutely unreliable.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Cæsarean Section.—Sarcoma Uteri.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Oct. 21st, the Vice-President, Mr. C. J. WRIGHT, being in the chair.

Dr. BRAITHWAITE read a paper on Two Cases of Cæsarean Section. In both cases Cæsarean section was performed at or about full term of pregnancy in consequence of the pelvis being blocked by ovarian tumours. In neither case could the tumour be got at for removal when the abdomen was opened. Case 1.—The uterus, on exposure, was seen to be of an unusual dark blue colour in consequence of the placenta being attached to its anterior wall. The placenta was divided at the same time as the incision was made through the anterior wall of the uterus. The child was rapidly removed and the uterus was wrapped up in a large hot sponge, which was pressed firmly upon it and at the same time it was lifted out through the abdominal wound. The placenta and membranes were removed immediately after the child. The mother did well and the child is still living and is now over a year old. Case 2.—This was almost precisely similar to Case 1. The mother did well but the child unfortunately died within 24 hours. The following amongst other points were noteworthy in these cases. First, in opening the uterus, especially if the placenta was attached anteriorly, rapidity was of vital importance. The incision should be begun by a scalpel but was better finished by very strong sharp scissors. Secondly, the edges of the incision must be seized and everted and compressed where necessary by a second assistant, not by the one standing opposite to the operator. The hæmorrhage from the divided uterine wall was very easily arrested in this way, as it was entirely venous and at very low pressure. It, moreover, did not come from the whole surface of the wound, but only from two or three points. Thirdly, after the uterus had been emptied of the child, placenta, and membrane, and brought out of the abdominal wound and wrapped in and pressed by a large, flat, hot sponge, the first stitch should, as recommended by Dr. Murdoch Cameron, be put in the middle so as to produce accurate adaptation. Before the wound was finally closed by the last two stitches, which should be at the upper end of the wound, the nozzle of a syringe should be inserted into the uterus and its cavity washed out by hot boric lotion in order to ensure the absence of clot. Fourthly, as it was ultimately absorbed, the best material for the sutures in the uterine wall was green chromic catgut soaked for half an hour in perchloride solution, 1 in 1000. In making the first half of each knot the end should be put through the loop twice instead of once. A knot so made in catgut would hold, otherwise it was not safe if any strain was put upon it, as by vomiting. The sutures should be put in two to the inch, and so deep as just to miss the inner surface of the uterus. If placed at longer intervals, as recommended by Saenger, the wound was not quite safely closed.—Dr. BELL, in an experience of 8000 midwifery cases, had only met with one case requiring Cæsarean section and this occurred lately in a dwarf 3ft. 5in. high whose pelvic antero-posterior diameter was only 1¼ in. The case occurred in a poor house and a hurried operation was necessary without recourse to any thorough aseptic arrangements; nevertheless, complete recovery took place both of the mother and child.—Dr. HELLIER deplored the frequency with which children were born with spastic paraplegia occurring immediately afterwards and attributed this to the children being dragged through the contracted pelvis by means of forceps. He advocated in these cases a more frequent adoption of symphysiotomy, which experience had shown was a very safe operation.—Mr. C. J. WRIGHT referred to three cases of Cæsarean section at which he had assisted for deformed pelvis some years ago and contrasted the past with the present successful mode of operating. The respective merits of Porro's operation and Cæsarean section were also mentioned. The existence of ovarian growths in both of Dr. Braithwaite's cases emphasised the necessity for early removal when these were detected in all cases of pregnancy.

Mr. CROFT related a case of Hysterectomy for Sarcoma Uteri following Hydatidiform Mole and showed the uterus removed and microscopic sections of the growth. The patient, aged thirty-two years, had had three children and had been ailing since the birth of the last child, two years previously. After suckling the child for eighteen months the menses returned once or twice and there was then severe flooding. A large hydatidiform mole was removed. About six weeks afterwards intermittent bleedings and offensive discharge with septicæmia having occurred the uterus was explored and the presence of malignant growth was discovered. The septicæmia and general symptoms having been relieved, vaginal hysterectomy was performed. Meanwhile the growth had been examined and reported upon by Mr. Targett of the Clinical Research Association. The tissue consisted of uterine muscle substance infiltrated with sarcoma. The cells were spindle-shaped, and many of them were very large, like giant cells, but the characters did not resemble those of deciduoma malignum. The interest of the case turned on the clinical resemblance to this latter disease and the fact of the malignant growth following a few weeks after the hydatidiform mole. The patient recovered and is so far well, the operation having been performed three months ago.

Dr. CHURTON showed a Large Cirrhotic Liver with Thrombosis of the Hepatic Veins from a man aged twenty-six years. He had been perfectly temperate and no ordinary cause for the disease could be discovered. There was, however, much reason to regard it as a case of congenital syphilis with manifestations long deferred. Keratitis due to this taint is said to appear occasionally as late as the thirtieth or fortieth year (J. Hutchinson).

Mr. LITTLEWOOD showed the following: 1. Bullet-wound of the Knee-joint. The patient was a boy, aged thirteen years, from whose right knee a bullet had been removed on Sept. 28th, 1898. The bullet had lodged just beneath the articular cartilage of the inner condyle. The bullet and skiagram were shown. 2. Sarcoma of the lower end of the Femur. The patient was a male, aged twenty-three years, who had had an amputation through the left thigh just below the lesser trochanter for a huge breaking-down sarcoma of the lower end of the femur. Operation was performed twelve days previously under nitrous oxide and oxygen. The patient was very ill at the time of the operation, having a temperature of 103° F. He suffered remarkably little from shock and has made a very rapid recovery. The specimen was shown. 3. Solid Ovarian Tumour, weighing 17 lb., having many adhesions, removed from a girl, aged fifteen years, on August 8th, 1898. The patient made a good recovery. 4. Double Pyosalpinx and Suppurating Ovarian Cyst (left) removed from an unmarried woman, aged twenty-five years, on Oct. 10th, 1898. Each tube contained 6 oz. of pus and the cyst 12 oz. The patient is making a good recovery. 5. Hat-pin, measuring 4 in., removed from the urethra of a man, aged fifty-four years. 6. Hydatids involving a Portion of Rib removed from a woman suffering from hydatid disease of the chest.

Dr. WARDROP GRIFFITH showed: 1. A case of Post-Diphtheritic Paralysis in a lad, aged nine years. The symptoms came on about a week after a severe sore-throat, the nature of which was not diagnosed. The patient was rapidly recovering, and at one stage his gait had strongly resembled that of pseudo-hypertrophic paralysis. 2. The blood from 2 cases of Leucocythæmia of the Spleno-medullary type. In one case the number of white cells was about equal to that of red, and the number of large eosinophile cells was very great.

Dr. ALLAN: (1) Elephantiasis of the Leg; and (2) Syphilitic Liver.

Dr. TREVELYAN: Miliary Tuberculosis of the Spinal Meninges.

Mr. W. H. BROWN: (1) Hand with Seven Fingers; (2) Sarcoma of the Neck after Injection with Coley's Fluid; (3)

Skin Grafting after Severe Burns; and (4) Malignant Disease of the Prostate.

Dr. CHURTON: Cancer of the Liver, with Microscopic Specimens.

Mr. LAWFORD KNAGGS: The Parts removed in a Porro's Operation. (The patient was shown).

Mr. E. SOLLY: Specimen of Complete Inversion of the Uterus.

Dr. HELLIER: Carcinoma Corporis Uteri removed by Vaginal Hysterectomy.

Mr. SECKER WALKER: Case of almost Complete Anterior Staphyloma of both Eyes. Iridectomy was performed in one eye with useful result.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (Metropolitan Branch).—A meeting of this society was held at 197, High Holborn on Oct. 28th, when Dr. J. F. J. Sykes delivered his presidential address on Some Points in Public Health Administration. Referring to the power of entry possessed by sanitary authorities under the Public Health (London) Act he regretted that no power was given to enter unless a nuisance was believed to exist; this was particularly to be regretted in the case of schools. With regard to drainage regulations he asked for pressure to be brought on the London County Council to issue their long-promised by-laws, and also for an interpretation of the words "making of a drain" and "new drain," as used in the Metropolitan Local Management and other Acts. He also advocated power being given to local authorities to make by-laws for the proper drainage and paving of stables. Speaking on the storage and removal of manure he suggested that as the nuisance from peat and some other kinds of litter arose from its disturbance and transference from one receptacle to another rather than by the transit of the removing receptacle the County Council should provide for the removal to be made in the same receptacle as the storage, by which means disturbance would be obviated and nuisances avoided. Continuing Dr. Sykes said that under the provisions of Section 41 (2) of the London Building Act, 1894, the open spaces to be provided to buildings might be entirely covered in so far as buildings existing in London streets prior to 1895 were concerned; in other words, no open space need be provided to the lowest floors—viz., the basement and the ground floors and possibly an entresol of a house. In consequence of this houses were being built so as not to have even a shaft for the purpose of allowing the drainage to discharge into the open, so that the by-laws of the sanitary authority and the county council, devised with a view to excluding drainage from buildings, especially domestic buildings, were rendered useless by the law of the Building Act, which permitted a building to embrace the whole of its drainage within its external walls. Some remedy was obviously necessary for this growing evil. He further urged that provision should be made for taking samples of polluted or infected foods and suggested the desirability of veterinarians being employed as food inspectors. Other points mentioned included overcrowding (for which Dr. Sykes said a definition was required), the notification by school teachers of absences caused by infectious diseases, and the desirability of making vermin of the clothing, person, or place a nuisance under the Public Health Act.

BECKENHAM AND PENGE MEDICAL SOCIETY.—Consequent on resolutions of two special general meetings this society formally entered on Oct. 28th into affiliation with the Corporate and Medical Reform Association, Limited, the object being to unite these otherwise distinct and independent associations the better to effect their common objects—corporate and medical reform. After a resolution moved from the chair, seconded by Mr. Barton, and carried *nem. con.*, to support the Corporate and Medical Reform Association and to coöperate in its policy and measures, the resolution to enter into affiliation was moved by Mr. Primrose Wells, seconded by Dr. Corbin, and adopted. At the meeting, held at the residence of Mr. Primrose Wells (honorary secretary), Mr. Sturges (President of the society) being in the chair, a deputation consisting of Dr. Lorimer Hart (Sydenham) and Mr. R. B. Anderson attended on behalf of the Corporate and Medical Reform Association and in summing up the question, before putting the motion to affiliate, Mr. Sturges said that he believed this method of affiliating distinct and otherwise entirely independent associations for the great purpose of corporate and medical reform was an entirely new departure in the profession and would obviate much of the inconvenience and dissatisfaction caused by the inertness of large and unwieldy bodies such as one they had in mind; that the policy placed before them by the deputation appeared reasonable and practicable and to be calculated to supply the want of some means of common action, and to supplement that local organisation which, though in that society absolutely unanimous, had failed to protect them and to establish their just claims in face of the inevitable outsider; and he predicted for this new policy and these new methods a great and remarkable success.—It was agreed that the resolution to affiliate should not take effect until and unless ratified by another meeting, which was held on Oct. 21st, and at which the resolution was again brought forward and formally passed unanimously.

THE DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—An ordinary meeting of this society was held at 20, Hanover-square, W., on Oct. 26th, the President, Dr. Radcliffe Crocker, being in the chair. The following cases were shown:—The President: 1. A case of Tuberculated Leprosy in a middle-aged Hindoo. The skin affection had existed for ten years. He had been totally blind since Christmas. 2. A case of Urticaria Pigmentosa in a boy.—Dr. T. D. Savill showed two cases: (1) Scleroderma of the Extremities in a woman; and (2) a Case for Diagnosis.—Dr. Alfred Eddowes showed: 1. Alopecia Areata with Leucodermia symmetrically situated on the Inner Aspect of both Knees, the patient being a boy about fourteen years of age. 2. A man recovering from Hodgkin's Disease. There was extensive alopecia areata. Dr. Eddowes pointed out the marked anæmia of the affected areas in this case and in his previous case. Both patients wore wigs. 3. A man with (?) Iodide Rash. 4. A woman with Chronic Symmetrical Œdematous Erythema of the Face, with a Lichenous Eruption affecting both Arms and the Neck.—The cases were discussed by the President, Mr. Buxton Shillitoe, Dr. Phillips-Conn, Dr. Hall, and Dr. Eddowes.

BOURNEMOUTH MEDICAL SOCIETY.—The annual meeting of this society was held on Oct. 26th at the Royal Exeter Hotel, Mr. T. Frederick Gardner, the retiring Vice-President and President-elect, being in the chair.—The honorary secretary read the minutes of the last annual meeting.—The reports of the committee and honorary librarian and the treasurer's audited accounts having been previously circulated among the members of the society were taken as read.—A ballot took place for the committee.—The following are the officers for the year 1898-99:—President: Mr. T. Frederick Gardner. Vice-President: Mr. Bernard Scott. Honorary Treasurer: Mr. A. Heygate Vernon. Honorary Librarian: Dr. W. H. L. Marriner. Honorary Secretary: Mr. D. M. Ross. Committee: Mr. S. L. Clift, Mr. A. C. Coles, Dr. W. H. L. Marriner, Dr. W. Hooper Masters, and Mr. F. Winson Ramsay.—The members and some friends afterwards dined together in the hotel.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—At a meeting of this society held on Oct. 26th the following office-bearers were appointed for the session 1898-99:—Honorary President: Dr. James Stirton. President: Mr. Alex. Miller. Senior Vice-President: Dr. Lawrence Oliphant. Junior Vice-President: Dr. J. K. Kelly. Treasurer: Dr. J. Lindsay. Secretary: Dr. R. Jardine. Reporting Secretary: Dr. Munro Kerr. Pathologist: Dr. Balfour Marshall. Councillors: Dr. A. Richmond, Dr. Edgar, Dr. G. W. Thomson, Dr. Elizabeth Pace, Dr. Marion Gilchrist, and Dr. E. A. Gibson.

THE PLAGUE IN INDIA.—The *Times of India* of Oct. 15th says that Lord Sandhurst was very busy during his late visit to Simla. More than one conference of high officials met regarding the plague question in Bombay and the subject of the provincial and financial status was carefully considered by his Excellency with Sir James Westland. As already announced, the Secretary of State for India has sanctioned the appointment of a special commission to make investigation of a scientific character in India in connexion with plague. The main questions with which the commission will deal are the origins of the different outbreaks of plague, the manner in which the disease is communicated, and the effects of curative serum and preventive inoculation.

Reviews and Notices of Books.

The Nervous System and its Diseases. By CHARLES K. MILLS, M.D. Philadelphia. Edinburgh and London: Young J. Pentland. 1898. Pp. 1056.

ANYONE who has read the contributions to neurological literature which have from time to time come from the pen of Dr. C. K. Mills must take up the present volume with considerable expectations. It may be said at once that these expectations are not likely to be disappointed and that the book, so far as it goes, is worthy of the high reputation of its author. We have said "so far as it goes," and it is well to state at the outset that this volume, after a general anatomical, physiological, and symptomatological introduction, deals only with diseases of the brain, cerebellum, medulla, and cranial nerves. Yet the book is complete in itself and is furnished with an excellent index and a most complete bibliography.

The first chapter is one of 124 pages, comprising a general sketch of the nervous system, a description of nervous tissues, an account of the development of the nervous system, and a section on nomenclature and terminology, advocating a somewhat radical and, in many cases, we believe, unnecessary change in the current terminology. We venture to think that the substitution, e.g., of "callosum" for "corpus callosum," of "dura" for "dura mater," of "thalamus" for "optic thalamus," of "medifrontal" for "middle frontal," and such like, are scarcely changes which will to most recommend themselves as improvements. Yet the attempt to attain to uniformity in nomenclature is one with which most students of neurology will probably sympathise. The general anatomy of the nervous system is dealt with in the next section and all the latest views are incorporated in this description. In the part dealing with the anatomy of the spinal cord no serious attempt is made to describe the destiny of the various tracts. The membranes, blood-vessels, and lymphatics of the nervous system are next dealt with, and following this the architecture and general physiology and the chemistry of the nervous system. Such is the first chapter, and it will not be wondered at that it comprises 124 pages which are abundantly and, on the whole, excellently illustrated.

The second chapter deals with the general pathology and etiology of nervous disease: its symptomatology, the methods of investigation, electrical examination, and electrical treatment. The general therapeutics of nervous diseases are also considered, including diet, climate, baths, and the various forms of special treatment, such as the Weir-Mitchell treatment, hypnotism, and serum treatment.

In the third chapter consideration of the spinal diseases is first entered upon and diseases of the membranes, sinuses, and veins of the brain and also encephalic malformations are dealt with. The account of these is satisfactory, although little new light is thrown upon their origin or symptomatology.

The fourth chapter seems at first sight a digression, but it really is not so, consisting as it does of an account of the histology and physiology of the brain in relation to its focal diseases, so that it includes an account of its minute anatomy, of cortical localisation, of the functions and morbid conditions of the basal ganglia, and of the cerebellum. Cranio-cerebral topography is also dealt with and the modes of examining the brain post mortem, especially with reference to the localisation of lesions.

The fifth chapter is devoted to an account of the diseases of cerebral vessels and of the vascular disturbances of the brain, and is naturally prefaced by an account of the encephalic circulation. It comprises, of course, a clinical description of various conditions, such as cerebral hæmorrhage, vascular occlusion from embolism and thrombosis, intracranial aneurysm, brain tumours, and abscess.

In the next chapter an account is given of the remaining cerebral diseases, including degenerations, the cerebral palsies of children, aphasia, and other defects of speech. This is an extremely satisfactory chapter. The next one is devoted to diseased conditions of the special senses and their related cerebral representations and this is succeeded by a chapter dealing with disturbance of ocular movements resulting from lesions of nerves, nuclei, or cerebral structure. The remaining two chapters discuss morbid conditions of the other cranial nerves—i.e., trigeminal, facial, glosso-pharyngeal, pneumogastric, spinal accessory, and hypoglossal—and diseased conditions of the medulla oblongata.

From the foregoing account the scope and completeness of the book will be evident, and it need only be said that it is very copiously illustrated, that on every page of it the author's intimate acquaintance with the latest neurological literature is evident, and that everywhere it is illuminated by the clinical experience of a highly-trained and keenly observant physician. We congratulate Dr. Mills on the first instalment of his book and we trust that he will be encouraged to complete a work which will, we believe, take a place in the best medical literature of America. As regards printing and typography and character of the illustrations the book is admirable.

The Meteorology of Egypt and its Influence on Disease. By H. E. LEIGH CANNEY, M.D. Lond. London: Baillière, Tindall, and Cox. 1897.

THIS work contains the most complete account of the meteorology of Egypt which we have yet seen. It includes the results of a series of observations undertaken during the three years 1893-96 by Dr. Canney and others at the following stations: Cairo, Helouan, Mena House, Luxor, Assouan, Luxor Fields, and at several points in the Luxor desert. All the observations (except those of the subsidiary stations near Luxor) were taken on the flat brown cement roofs of hotels from 40 to 50 ft. high. The following gentlemen coöperated with Dr. Canney in this work: Mr. Longmore and Dr. Jalland at Assouan, Dr. Bentley and Mr. J. L. Hichens at Mena House, Dr. Kauffmann at Cairo, M. F. Doüat at Helouan, and Dr. Page May. The general result of Dr. Canney's observations is to bring out the superior climatic advantages of Upper, as compared with Lower, Egypt. Thus for the four months December to March Luxor has a mean temperature 3·3° warmer than Helouan, and Assouan 7·8° warmer than Helouan. Again, the fall of mean temperature in January, which is 4·5° at Mena House and 3·5° at Helouan, is 2·7° at Luxor and only 1·8° at Assouan. The mean daily variation of temperature is naturally greater in Upper than in Lower Egypt. For the four months included in the observations it was found to be 21·7° at Mena House, 22 3° at Helouan, 28·4° at Luxor, and 27·6° at Assouan. "With regard to the fall of temperature at sunset," says Dr. Canney, "much has been said by nearly everyone who has ever travelled in Egypt, and it has often been described as very great. So far as these continuous observations show, the fall of temperature from 4 P.M. to 6 P.M. (including the hour of sunset) is only 1° more than that for the following two hours to 8 P.M. in Lower Egypt, whilst in Upper Egypt the fall from 4 P.M. to 6 P.M. is only 2° more than that for the following two hours. In the desert the reduction of temperature from the maximum to the minimum is gradual, though rather more rapid up to 6 P.M. than after that hour." The relative humidity is decidedly less in Upper than in Lower Egypt. Dr. Canney gives the mean for two years as 54·2° at Helouan and 40·5° at Assouan. The

absolute humidity (grains in 10 cubic feet of air) is stated to be 35 at Mena House, 30 at Helouan, 31 at Luxor, and 28 at Assouan. It is characteristic of Egypt that in these observations "rain was not recorded." Rain falls at Cairo on an average about ten to fifteen days in the year, the total precipitation being less than half an inch; Upper Egypt is practically rainless. It need hardly be said that the climatic differences between Upper and Lower Egypt are modified to an important extent by the influence of the cultivated Delta upon the latter. This influence, so far as it goes, detracts from the pure "desert" quality of the air at Cairo, Mena House, and Helouan.

Dr. Canney strongly advocates Egypt (and especially Upper Egypt) as a resort in the following cases: phthisis (non-erethic cases, hæmorrhagic cases, chronic quiescent cases, and cases associated with bronchitis), asthma, chronic bronchitis and emphysema, impaired convalescence from pneumonia and pleurisy, chronic nasal and pharyngeal catarrh, mental overstrain, insomnia, Bright's disease, rheumatism and gout, dyspepsia, sciatica, &c. This is a long list which we have not space to discuss. The best air for phthisis (speaking generally) is mountain air. The next best is desert air. While Dr. Canney's book contains a great mass of really valuable information it is open to criticism in some particulars. It is badly arranged and the various tabular statements are not sufficiently self-explanatory. Some of the remarks regarding the influence of cultivated land upon climate seem to us erroneous. The mean daily variation of temperature is given as 25° at Cairo and 8° at Alexandria. This latter figure is certainly too low. The following sentence is hardly a model of philosophic impartiality and caution: "It will be observed that the cases deriving the greatest benefit from the climate of Egypt are mostly diseases unknown or rare in Egypt—phthisis, asthma, bronchitis, gout, Bright's disease, insomnia, rheumatoid arthritis, dyspepsia, and sciatica. In all these cases the relief to be obtained is very great in Egypt, and at the same time *they are cases for which little or nothing can be done in Europe*, with the exception of phthisis which has possible alternative resorts." The italics are ours.

Perityphlitis and its Varieties: their Pathology, Clinical Manifestations, and Treatment. By FREDERICK TREVES, F.R.C.S. Eng., Surgeon to the London Hospital, &c. (Reprinted from "A System of Medicine," edited by T. Clifford Allbutt, M.D. Cantab., F.R.S.) London: Macmillan and Co. 1897. Pp. 61. Price 2*s.* 6*d.*

THE high character of the individual contributions to Clifford Allbutt's "System of Medicine" fully justifies the reappearance separately of some of the more important papers. Mr. Treves's article on "Perityphlitis" is especially suitable for publication in this isolated form, for the subject is very well defined and the frequency of the occurrence of this disease makes it of especial interest.

The author prefers the name Perityphlitis to Appendicitis, and we heartily agree with him that the latter is uncouth, but there seems little doubt that it will ultimately prevail. After a short sketch of the history of the disease and the anatomy of the parts affected the pathology and morbid anatomy are considered. Einhorn is quoted as stating that 91 per cent. of all perityphlitic cases are appendicular in origin and that 9 per cent. are due to primary perforation of the cæcum; these statistics are based on post-mortem examinations; but, as Mr. Treves says, surgical experience would lead us to place the cases arising from the appendix at a higher percentage of frequency. With regard to the etiology the author considers that 3 per cent. would represent the proportion of his cases of perityphlitis in which a foreign body was found in the appendix; this is in accord with general opinion at the present time; concretions are found more commonly, perhaps in 30 per cent. of the cases.

The situation of the pain felt in an attack of inflammation of the appendix is of importance; in about 70 per cent. of cases it is felt at first just above the umbilicus, and only in the remaining 30 per cent. is it found in the right iliac fossa. Occasionally pain is also felt in the left iliac fossa, and sometimes this pain on the left side may be more marked than that on the right. Mr. Treves divides the cases for purposes of description into (1) those which end in resolution; (2) those ending in suppuration; (3) very mild cases; (4) intense and acute attacks; and (5) certain peculiar forms.

The section on Diagnosis is likely to prove useful. The conditions from which perityphlitis must be distinguished are renal colic, hepatic colic, twisting of the pedicle of an ovarian cyst, torsion of a moveable kidney, general peritonitis, intestinal obstruction, colitis, carcinoma of the cæcum, hip disease, and psoas abscess; but several other conditions may simulate disease of the appendix.

The pages devoted to Treatment will probably be considered as the most important. Mr. Treves deals with the treatment (*a*) during an attack, (*b*) between attacks, and (*c*) operative interference. In the early treatment of an attack a very difficult problem is whether to give aperients; the author advises that if the onset is mild a purgative should be given at once, for he has found many times that an attack has apparently been cut short by a promptly administered aperient. In attempting to promote an action of the bowels it is best to give an enema at once; should it cause a thorough evacuation no further measure is needed; should it fail a purgative should be given without delay. If the onset of the attack be very acute and severe the administration of an aperient at once cannot be entertained. In the treatment between the attacks the digestion must be attended to and deficiencies in the teeth should be made good, for Mr. Treves tells us that he has known in many instances a set of false teeth to bring a case of relapsing perityphlitis to a favourable ending. As to the diet it should be simple and digestible; there is no pathological evidence to support the advice that the patient should especially avoid substances such as strawberries, figs, or currants, which contain minute seeds. The bowels should be made to act daily. As to operative interference Mr. Treves lays it down as a rough rule that the use of the knife is very seldom called for before the fifth day. Routine early operation is especially deprecated, for the vast majority of cases undergo a spontaneous cure and even when pus forms, in no large proportion of cases does it burst into the peritoneal cavity—according to Dr. Bull's statistics only in 8 cases out of 67. The use of the exploring needle is strongly condemned, for it is full of risk and of little value. In relapsing perityphlitis Mr. Treves advises operation if the attacks have been very numerous, even if slight; if the attacks are increasing in frequency and severity; if the last attack has been so severe as to place the patient's life in considerable danger; if the relapses have made him a chronic invalid; or if the persistence of certain local symptoms during the quiescent period renders it probable that a collection of pus exists in or around the appendix. We commend this article to all who have not already seen it in Allbutt's "System of Medicine." An index would have rendered the contents more readily available and we consider its absence a serious defect.

A Manual of Obstetrics. By A. F. KING, M.D. Seventh Edition. 1898. With 223 Illustrations. London: Henry Kimpton. Demy 8vo, pp. 574. Price 10*s.* 6*d.* net.

As an interval of only two years has elapsed since the appearance of the last edition of this work very little alteration

has been necessary in the preparation of the present, the seventh, edition, so that the book retains its former size and scope. A number of minor corrections and additions have been made and the chapter upon Puerperal Septicæmia has been rewritten. It now gives a clear review of this important subject and the most recently recommended methods of treatment, such as the administration of nuclein, the transfusion of normal saline solution, and the use of antistreptococcic serum, are adequately described and discussed. The book gives a concise and readable account of the most important facts of obstetric practice and is one of the best manuals of its size and kind. The present edition fully maintains the standard of the previous ones and the work is therefore one which we can cordially recommend to such students and practitioners as may require an outline of the principles and practice of midwifery in a compact form.

Chirurgie de la Face (The Surgery of the Face). Par FÉLIX FERRIER, Professeur à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Bichat, Membre de l'Académie de Médecine, et MM. les Docteurs GUILLEMAIN et A. MALHERBE, Anciens Internes des Hôpitaux de Paris. Avec 214 figures dans le texte. Paris: F. Alcan. 1897. Pp. 303. Prix 4 francs.

PROFESSOR F. FERRIER lectured during the session 1894–95 on the operative surgery of the face and his lectures have been arranged by two former pupils. The title hardly describes exactly the contents of the volume, for it includes, in addition to that of the face and the jaws, the surgery of the tongue, tonsils, palate, and pharynx and even of the sphenoidal sinuses. The surgery of the nerves of the face has, however, been omitted and will probably form the subject of a separate volume. A very good account is given of the various operations performed, and abundant illustrations, more than two hundred in all, assist the descriptions. The references to original papers are exceptionally numerous and British surgery appears to be given full credit for the work it has done in this department. We were interested to learn that the operation, which in this country is ascribed either to Furneaux Jordan or to Gant, for removal of the tongue by incising the cheek was described so long ago as 1832 by Jaeger. A good account is given of naso-pharyngeal adenoids and their treatment, and the description of the employment of metallic supports for rhinoplastic flaps is fully up to date. To those who can read French we recommend this little book as furnishing an interesting and useful account of the surgery of an important part of the body.

JOURNALS AND REVIEWS.

The Middlesex Hospital Journal.—The October number of this journal contains amongst other matters Dr. Voelcker's introductory address, an abstract of which has already appeared in our columns, and the continuation of Dr. Coupland's "Story of the Middlesex Hospital." Among the great names connected with the hospital mentioned in this section of Dr. Coupland's interesting papers are those of Latham, Charles Bell, and Watson.

Revue de Gynécologie et de Chirurgie Abdominale. No. 5. Septembre–Octobre, 1898. Paris: Masson et Cie.—This number contains the following articles. The Treatment of the Broad Ligaments in Hysterectomy by Angiotripsy, by M. Doyen; Esthiomène of the Anus and Vulva, by M. Verchère; Complete Prolapse of the Uterus and Vagina in a Young Virgin, by M. Fr. Stépkowski; the Treatment of Extra-uterine Gestation, by M. Paul Segond; a *résumé* of the report presented to the Congress of Gynæcology at Marseilles, October, 1898; and the Extirpation of the Cancerous Rectum through the Perineum, by MM. E. Quénu and R. Baudet. An analysis of current literature and a bibliographical index complete the number.

Analytical Records
FROM
THE LANCET LABORATORY.

HÆMATOGEN (HOMMEL'S).

(NICOLAY AND CO., 36, ST. ANDREW'S-HILL, DOCTORS'-COMMONS, E.C.)

THE interesting results following the administration of hæmoglobin in anæmia and other morbid conditions would seem to suggest this treatment as being properly classified under organo-therapeutics. The preparation here described has been spoken of favourably in this connexion. Hommel's hæmatogen is a somewhat syrupy, blood-coloured fluid, with a practically neutral taste except that due to glycerine. It coagulates on heating to a solid mass so that it is rich in albumin. On further examination we found that the preparation contained the normal salts of blood plasma. We could find no objectionable preservatives. A diluted solution exhibited the well-marked absorption spectra of hæmoglobin. The preparation is quite stable and is not repulsive on the score of taste, appearance, and smell. In some clinical trials made with this preparation the results were said to be very encouraging, indicating that it distinctly increases the amount of iron in the blood, while at the same time it acts as a nutrient by so influencing the metabolism of the body as to promote a healthy condition of the processes of nutrition. These results are in accordance with the composition and constitution of the preparation as shown in our analysis and examination.

OVO.

(THE MECREDY MANUFACTURING SYNDICATE, LTD., 248, GRESHAM HOUSE, OLD BROAD-STREET, E.C.)

This preparation needs little examination to show that it is, as described, desiccated egg. We found, however, that the desiccation had been so conducted as to preserve the properties of the nutritive substances of the fresh egg intact. Thus, on treating "ovo"—which presents the appearance of finely chopped, hard-boiled egg—with warm water for ten minutes a liquid is obtained having the appearance of a freshly whipped egg. Moreover, the albumin is in a soluble state and uncoagulated, for on filtering the liquid with the aid of pressure a fluid is obtained which on boiling turns semi-solid. When examined for objectionable preservatives the results were negative. The preparation is identical with egg, except that the moisture has been reduced carefully by a process which does not alter the constitution of the proteids. It is erroneous, therefore, to describe "ovo" as an egg substitute.

PROTENE PREPARATIONS.

(THE PROTENE CO., LTD., 36, WELBECK-STREET, CAVENDISH-SQUARE, W.)

The basis of these preparations is "protene," a powder occurring in small grains which is but little soluble in water. It is essentially a nitrogenous compound identical in composition with the casein of milk. Our analysis gave the following results: nitrogenous matters, 80·00 per cent.; non-nitrogenous matters, 11·93 per cent.; mineral matter, 4·37 per cent.; and moisture, 3·70 per cent. The mineral matter consisted almost exclusively of phosphates identical with those in milk. Protene, indeed, is described as a form of dried milk with the fat and sugar eliminated, the flesh-forming and bone-forming substances being alone retained. It is clearly a powerful food substance and admirably adapted for raising the nitrogenous value of farinaceous or other foods. Protene flour (No. 2) gave the following results on analysis: nitrogenous matters, 76·73 per cent.; non-nitrogenous matters, 13·59 per cent.; moisture, 3·27 per cent.; and mineral matter, 6·41 per cent.

The increased amount of mineral matter here is due to a small quantity of added carbonate of soda which renders the protene to some extent soluble. Protene bread gave the following results on analysis: moisture, 42·43 per cent.; nitrogenous matters, 51·87 per cent.; carbohydrates, 2·40 per cent.; and mineral matter, 3·30 per cent. The bread contains a trifling quantity of starch. It presents a satisfactory spongy texture and should serve as a valuable and palatable food in those cases where sugar-producing substances are contra-indicated. Lastly, protene is the basis of some excellent biscuits which differ from the foregoing preparations in containing fat. They possess a very agreeable flavour and are desirably "short." We consider "protene" a valuable and important addition to dietetics in affording a means of adding considerably to the nutritive properties of special foods. The application of protene in accentuating the nutrient properties of various forms of food is well illustrated in the following preparations which are made: "protene household flour," "protene luncheon biscuits," "protene training biscuits," "protene medical biscuits," and "protene fancy biscuits." Painstaking research has established that the proteids of milk are amongst the most easily assimilated, and since these form the basis of "protene" preparations, many of which contain no less than 50 per cent. of proteid, it follows that they must possess a high degree of really nourishing property.

(1) PLASMA NASAL TABLETS; (2) MENTHOLATED THROAT TABLETS.

(PARKE, DAVIS AND CO., 21, NORTH AUDLEY-STREET, W.)

Both these formulæ are of well-known value and the convenience of the tablet form containing the ingredients in reliable ratio is obvious. The composition of the "plasma nasal tablets" is as follows: sodium chloride, 5½ gr.; sodium sulphate, 1½ gr.; sodium phosphate, ½ gr.; potassium chloride, ⅔ gr.; potassium sulphate, ½ gr.; and potassium phosphate, ⅓ gr. The tablet when added to 2 oz. of lukewarm water gives a solution of the same density as blood-serum. The addition of a trace of menthol is an important feature, which gives the solution sedative properties. It is therefore well adapted for application to the nasal cavities. The throat tablets are also mentholated and contain as well an approved quantity of cocaine hydrochlorate, aniseed oil, benzoic acid, and eucalyptol. They are very agreeable in inflamed conditions of the throat, mildly stimulating the secretion and relieving irritation.

ESSENCE OF COCOA.

(JOHN TORDOFF AND SON, BRADFORD AND 21, MINCING-LANE, E.C.)

This is a well-prepared cocoa satisfactorily miscible with hot water, the resulting infusion possessing a rich cocoa flavour. According to our analysis more than one-third of the indigestible fat in raw cocoa has been removed in this preparation. The amount of mineral matter was normal, though it showed an alkalinity suggesting a special method of manufacture, which tends to increase the digestibility of the cocoa.

PAPINE.

(ROBERTS AND CO., 76, NEW BOND-STREET, W.)

"Papine" is described as the anodyne or pain-relieving principle of opium the narcotic and convulsive elements being eliminated. The name suggests a corruption of "papaverine" which is anti-tetanic and hypnotic. The preparation proved to be an alcoholic solution coloured with cochineal and exhibiting a slightly acid reaction. On neutralising with ammonia and extracting with chloroform a residue was obtained which gave a blue reaction with Fröhde's reagent (ammonium molybdate dissolved in sulphuric acid), while an abundant mahogany-coloured precipitate was obtained with a solution of iodine in potassic iodide. One fluid drachm is said to be equal in anodyne power to ⅛ gr. of morphine. It would appear to be without the drawbacks of opium, since it is stated it has less tendency to cause nausea, vomiting, and constipation.

FORTUNA NATURAL MINERAL WATER.

(SANDERS, REHDERS AND CO., 108, FENCHURCH-STREET, E.C.)

The spring from which this water is drawn is situated in a valley between the Vogel and Taunus mountains in Germany, not far from Nauheim. It is only slightly mineralised and contains no added salts. The total mineral matter, in fact, amounts only to 1·54 grammes per litre, of which 0·8 gramme is common salt, the balance consisting of lime salts, the carbonate and sulphate. The water possesses in regard to taste the characteristics of a pure natural water. It is quite free from organic matter. On examination with the spectroscope some evidence was gained of the presence of lithium. The water is pleasantly sparkling and bright and well adapted for table purposes. Its composition lends support to the statement that it is an "absolutely natural" mineral water. It contains a very small proportion of mineral salts, an excess of which distinguishes many other "natural" effervescing waters of the same class.

DOUBLE CYANIDE GAUZE (LISTER).

(JOHN MILNE, LADYWELL, LONDON, S.E.)

We have carefully tested a specimen of gauze submitted to us, and the results were in accordance with the directions first indicated by Lord Lister for impregnating the material with the double cyanide (mercury and zinc). When prepared with due care the application of such a gauze is unattended with mercurialism. Such is claimed to be the case, at any rate, with the dressing made by this firm.

OLD BLENDED SCOTCH WHISKY.

(J. HEGINBOTHAM, 47, MARKET-STREET, STALYBRIDGE.)

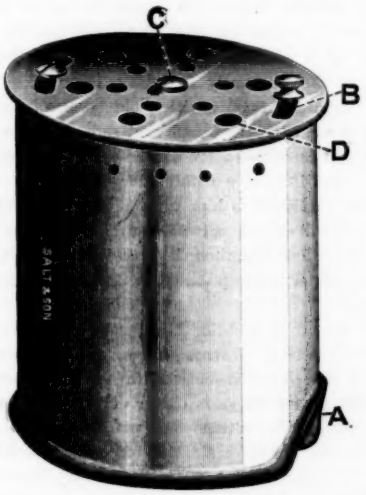
The analysis of this whisky was as follows: alcohol, by weight 41·05 per cent., by volume 48·48 per cent., equal to proof spirit 84·96 per cent.; extractives, 0·16 per cent.; volatile acidity, *nil;* reducing substances (reckoned as sugar), 0·15 per cent. The spirit was smooth to the taste which gave no suggestion of the presence of any crude product. It contains a minimum of extractive matters, while the acidity was hardly measurable. It is evidently a pure spirit and skilfully blended.

New Inventions.

METAL A.C.E. INHALER WITH A SIMPLE MEANS OF VARYING THE AIR-SUPPLY.

THE mask is lightly made of German silver nickel-plated and the general construction is fairly represented by the illustration. The rim is fairly accurately adapted to the contour of, and has a recess shown at A for, the nose. The plate closing the end of the mask is pierced by a number of holes (D) and the stud B is attached to an internal plate similarly pierced and rotating on the pivot C. Very free access of air is allowed when the holes in the internal and external plates coincide and the supply is regulated by moving the stud B whereby partial or complete closure of the holes can be effected at will. There are also apertures around the upper part of the mask, as shown in the illustration, to allow of a moderate continual air entry, independently of the regulated supply and of that admitted under the edge of the inhaler. Close under the perforated plates is placed a sponge of coarse texture. Besides the A.C.E. mixture this inhaler is well adapted for the administration of other mixtures containing a larger proportion of ether than does the A.C.E. One can very conveniently add ether to any mixture which is being administered, of course regulating the air-supply accordingly. Even ether alone may easily be inhaled from this mask. It is often of advantage to first give a little A.C.E. on a Skinner's mask

and then in two or three minutes to change to this inhaler, having its air apertures patent at first and gradually restricting the air-supply as is found necessary according to the age and condition of the patient. The sponge should occasionally be removed and squeezed to get rid of superfluous alcohol and chloroform remaining over after the evaporation of the ether. If pure ether is being given it is advisable to prevent access of air under the free edge by means of a cloth.

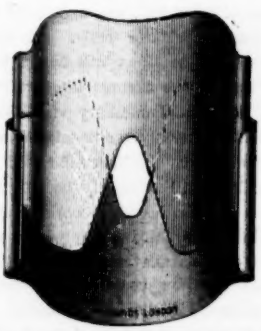


The chief advantages of the inhaler are—(1) its exceeding lightness and simplicity and the ease of sterilising it; (2) its suitability for administering besides the A.C.E. other mixtures stronger in ether or even ether alone; and (3) the ability to regulate to some extent the air-supply. I find it of great use and would not be without it, especially when anæsthetising old people. This inhaler has been made to my instructions by Messrs. Salt and Son of Birmingham.

W. J. MCCARDIE, B.A., M.B., B.C. Cantab.,
Anæsthetist to the General Hospital and to the Dental Hospital, Birmingham.

AMPUTATION RETRACTOR.

ALL surgeons, in bone amputations, of muscular limbs especially, know the difficulty assistants have in keeping the flaps out of the way of the saw and their fingers out of danger; also the difficulty of holding firmly the proximal part of the bone, as in the thigh. When the operation has to be performed with only one assistant or with unskilled help these difficulties are accentuated. Some three years ago I had made by a local tinsmith an instrument which my colleagues and I have continued to use with advantage in hospital work. This instrument Messrs. Down Bros. have been good enough to make in a more finished style, as depicted in the illustration. The retractor consists of two blades, which are concavo-convex from side to side, and when fitted together, as in the illustration, practically form half of a cylinder with a hole in the centre; this hole is due to the wedge-shaped piece which is absent from each blade. When about to be applied the two blades are separated entirely and the female (lower) one is placed so that the bone lies in the apex of its notch; the male blade is passed to the other side of the limb and then pushed into the grooves of the female one and thus the bone is encircled by the retractor. The flaps are now covered by the metal and the instrument is held easily by the edges which form the grooves at the sides. In the case of two bones one bone fits into the apex of one notch and the other into that of the companion retractor. An ordinary surgical retractor may be placed between the bones on the proximal side to retract all the tissues between if necessary. By pressing the flat end of the female blade firmly on the operating table the bone can easily be held as if in a vice and by pulling towards the body the flaps can be retracted to any extent wished.



The advantages which this instrument presents are—(1) protection of the flaps from damage; (2) perfect exposure of the bone to be divided; (3) absolute and easy fixation of the bone; (4) reduction in the number of assistants required; (5) perfect protection of the assistants' fingers; and (6) simplicity of cleansing the instrument by boiling or scrubbing.

I feel indebted to Messrs. Down Bros. for their ready help and for their careful construction of the instrument.

F. W. COLLINSON, M.B., C.M. Edin., M.R.C.S. Eng.
Preston.

HEALTH OF BELFAST.

AT a meeting of the Public Health Committee, held on Oct. 27th, it was reported that 125 cases of typhoid fever were notified during the week, the numbers in the previous six weeks having been 149, 151, 172, 164, 247, and 270. Nine cases of diphtheria were also notified during the same week. The following paragraph, from an account of this meeting, appears in the public press and is not calculated to keep up pleasant relations between the Public Health Committee and the medical profession: "The Infectious Diseases Notification Act and its operation were again brought forcibly to the front by the case of a person who had been notified as suffering from typhoid fever and who having unfortunately succumbed to the illness was returned as having died of bronchitis." At the last meeting of the combined Public Health and Improvement Committee a report was presented by the borough surveyor and the executive sanitary officer in reference to the resolution passed on Sept. 20th to the effect "that a systematic test of all the drains in the city be made and that the head officers of the Public Health and Improvement Committees report what additional officers are necessary for this purpose, and that such officers be appointed and a weekly return of the drains so tested be made to the above committees." At the meeting on Oct. 27th the two officers mentioned reported that the enforcing of this resolution would effect one of the most sweeping changes ever proposed by any committee of the corporation and that in their opinion it practically amounted to the sanitary reconstruction of the drainage of the great majority of the houses within the city. They say, assuming that Belfast contains at present about 70,000 houses, and that one inspector and an assistant can thoroughly test and report on the drainage of six houses per day, so as to be available for legal evidence, thirty-nine inspectors with their assistants and workmen would be required (exclusive of expenses involved in conveying testing apparatus, &c.) to do the work in a year. It is well to be able to state that notwithstanding a determined effort to oppose those who are working so hard to get the sanitary condition of the city made right—a state of affairs due to the neglect of past years—the following resolution was carried: "That three additional plumbers be appointed in conjunction with the four already in the surveyor's department to examine and test all drains, each of the seven to have an assistant." No more serious indictment was ever brought against any city than that made by the city surveyor and the executive sanitary officer of Belfast when they report that to carry out a resolution of the city council to make a systematic test of all the drains in Belfast "practically amounts to the sanitary reconstruction of the drainage of the great majority of the houses within the city." If this is true is it any wonder that typhoid fever has been so prevalent in Belfast? but the only solution—and it will take time and money—is to begin at once to make matters right. Every credit is due to those members of the Public Health and Improvement Committees (lay and medical), who are determined that a thorough attempt shall be made to improve the present sanitary state of Belfast.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 5, 1898.

THE new and elaborate Vaccination Order issued by the Local Government Board bears many marks of careful consideration and of great administrative skill and experience on the part of its draughtsmen. Its provisions take cognisance both of difficulties which have been experienced in the past and of new difficulties which may be expected to arise in the immediate future in consequence of the coming into operation of the new Act and of the efforts which are already being put forth by those whose distorted mental vision has led them to make opposition to vaccination the main purpose of their lives.

A circular letter to boards of guardians accompanies the order and points out, *inter alia*, that with the exception of Section 2 (the Conscience Clause), which is already in force, the new Act will be in operation from Jan. 1st, 1899 to Jan. 1st, 1904; that the Board are now empowered to make rules with respect to the duties and remuneration of public vaccinators, even if already in office; that public vaccination stations will be abolished from the end of this year, unless under Section 7 of the new Act the Board deem it expedient to require guardians to provide such stations owing to serious risk of small-pox prevalence or to other exceptional circumstances, though the letter avoids, perhaps wisely, any attempt to indicate what might be considered such "other exceptional circumstances"; that domiiciliary vaccination will take the place of stational vaccination; that the duties and remuneration of public vaccinators and vaccination officers therefore require revisal; that without any Order issued by the Local Government Board and without any instructions by boards of guardians the power and duty of taking legal proceedings to enforce the Vaccination Acts are vested in the vaccination officer; that an order under Section 31 of the Act of 1867 directing the vaccination of a child shall not be made on any person who has previously been convicted of non-compliance with a similar order relating to the same child; and that no proceedings under Section 31 shall be taken against a person already convicted under Section 29 on account of the same child until he or she has reached the age of four years.

The Order itself consists of thirty-two articles and five schedules. Article I. provides that the validity of existing contracts with public vaccinators and the appointment and tenure of office of existing vaccination officers are not interfered with excepting that the duties and remuneration must be in accordance with the new Order.

Article 3 deals with the remuneration of public vaccinators and Article 20 with that of vaccination officers. The scheme in the two cases is similar in principle though not identical in operation. Each official is to receive, first, a small payment in respect of every child as to whom he has any kind of official duty under the Acts, whether such child ever be vaccinated or not, and, secondly, a larger and additional payment for each successful vaccination with which he has to do. With regard to the vaccination officer this first small payment means a minimum capitation grant of threepence for every child born within his district, he having certain duties with regard to all of them. For the public vaccinator the first and smaller payment is to be a shilling as a minimum, but the basis of payment is not nearly so wide. His duties will begin with children four months old unless where he is called in earlier by the parent, and so far as this capitation payment is concerned there will be several important deductions. He will receive nothing for children not included in the lists furnished to him by the vaccination officers, and such lists will exclude all children as to whom a certificate of conscientious objection has been duly lodged, or whose vaccination, or insusceptibility, or unfitness has already been certified.

The second or additional payment refers, in the case of both officials, to successful vaccinations, and, in the case of the public vaccinator, to successful revaccination of children over ten years old or of persons who have not been vaccinated within the previous ten years. The minimum fee to the vaccination officer will be 9*d*. (besides additional payments which the Board may direct for extraordinary services) and to the public vaccinator 5*s*. for domiciliary vaccinations or revaccinations and 2*s*. 6*d*. for vaccinations of persons other than children, or for revaccinations, done at his surgery or elsewhere. For workhouse vaccinations the fee is similarly to be 2*s*. 6*d*.

In considering the adequacy of these fees to the public vaccinator various facts have to be kept in mind. What we have for convenience called the capitation fee is obviously intended to remunerate the officials for work requiring to be done by them under the Statute and Order but which yet may not result in the performance of vaccination. In places where the new law is honestly carried out, where objectors go before the magistrates to get relief and then lodge their certificates of conscientious disbelief with the vaccination officer, almost every domiciliary visit should mean a domiciliary vaccination, and here the minimum payment of 6*s*. (1*s*. plus 5*s*.) would be for the operation and one subsequent visit, and also for any other visits which the public vaccinator might think necessary. But the readers of an anti-vaccinationist print are, we observe, advised not to apply for any certificate of relief and not to submit to vaccination when the public vaccinator calls. If this advice be followed in any district the effect will be, on the one hand, to reduce very greatly the average fee received by the public vaccinator for each domiciliary visit, but, on the other hand, to increase greatly the total amount received, as the number of names in the lists submitted to him by the vaccination officer will obviously be all the greater according as the certificates of conscientious objection are the fewer. This is a contingency which, we fancy, may cause the organ of the Anti-vaccination League to feel itself in a dilemma. Nothing could well be more abhorrent to it than an increase in the remuneration of public vaccinators, while at the same time it is evidently most anxious to make as much trouble as possible by inciting

to the refusal not only of vaccination but also of the relief provided by the Conscience Clause.

It is to be noted that the payments above mentioned are minimum payments. In a thickly populated place, where the lists sent to the public vaccinator may contain many children whose homes are within a short distance of his own residence, obviously, other things being equal, the minimum fees will be much more likely to be adequate than in the country, where a single domiciliary visit, whether or not it results in a vaccination, may involve a drive costing several shillings and taking much time. In rural districts, therefore, the fees should rule higher than in towns, especially as everything must be covered by the fees, the Order making no provision for payment of hires or allowances for long journeys. As in the case of many medical appointments, the short and the long distances must be accepted alike by the holder of the office, and he should therefore see that the fees are so fixed as to cover reasonably all contingencies.

Here we regret to note that the public vaccinator will be at a great disadvantage as compared with the vaccination officer. The former is dismissable on twenty-eight days' notice, while every vaccination officer appointed under the new Order "shall continue to hold office until he shall die, or resign, or be removed by the guardians, with Our consent, or by Us, or shall be proved to be insane by evidence which We shall deem sufficient." The words of the Local Government Board, "with Our consent," will afford a great security to the holder of the office in making any request for increase of fees. The public vaccinator is to have no such protection, and we must assume that the central authority had no power to give it to him, otherwise it could hardly have made such an invidious distinction between the two servants. Let it be understood that we do not grudge the vaccination officer his security. On the contrary, it is entirely in the public interest as well as in his own interest, but it would also be in the public interest that the public vaccinator should be similarly dealt with. We sincerely trust that in every district, and especially in rural districts where the minimum fees must be least satisfactory, the standard of professional conduct will be such as to make the public vaccinator safe in insisting on a reasonable reward for his services. It is true that the payments "shall, subject to the above provisions as to the minimum, be of such amount ..... as may be fixed in the contracts approved by" the Local Government Board, but if a medical man were willing to accept office on the minimum scale where another scale ought to be in force it might be difficult for the central authority to interfere.

Articles 6 to 9, inclusive, deal with the duties of the public vaccinator, which are further specified in the third Schedule. His domiciliary visits must be made between 9 A.M. and 4 P.M., and he must give twenty-four hours' notice. His visit must be made within a fortnight after receiving the notice from the vaccination officer or a request from the parent. The Schedule of Instructions to Public Vaccinators contains some clauses which ought to apply to every vaccination done by every private medical man, and which are so important that we quote them here.

4 The public vaccinator must keep such record of the lymph he uses for vaccinating as will enable him always to identify the origin of the lymph used in each operation. He must not employ lymph supplied by any person who does not keep an exact record of its source.

5. The public vaccinator must keep in good condition the lancets or other instruments which he uses for vaccinating, and he must not use them for any other purpose whatever. When he vaccinates he must cleanse and sterilise his instruments after one operation before proceeding to another and must always, when vaccinating, have with him the means of doing this. When once he has unsealed a tube of lymph he must never attempt to keep any part of its contents for the purposes of vaccination on a future occasion. Under no circumstances should the mouth be applied directly to the tube in which the lymph is contained for the purpose of expelling the lymph. In the case of ordinary capillary tubes an artificial blower may properly be used for this purpose.

6. Vaccination should at every stage be carried out with aseptic precautions. These should include: 1st, the cleansing of the surface of the skin before vaccination; 2nd, the use of sterilised instruments; and 3rd, the protection of the vaccinated surface against extraneous infection both on the performance of the operation and on inspection of the results.

Advice as to the precautions to be taken in this respect until the scabs have fallen and the arm has healed should always be given to the person having the custody of the child.

7. In all ordinary cases of primary vaccination the public vaccinator must aim at producing four separate good-sized vesicles or groups of vesicles not less than half an inch from one another. The total area of vesiculation resulting from the vaccination should not be less than half a square inch."

Articles 10 to 15 inclusive deal with the appointment of vaccination officers. Wherever the guardians or the Local Government Board think the number of officers insufficient for the district additional officers shall be appointed, and temporary assistance shall be provided when necessary owing to an outbreak of small-pox or other cause. When a vacancy occurs the office shall be filled up without delay, and if this cannot be done forthwith a person must be appointed temporarily. Under the heading of "Duties of Vaccination Officers" (Articles 25–28) there is further indication of the Board's attitude as to legal proceedings by that officer.

"He shall, when required by the guardians, give them full information as to any legal proceedings taken by him as vaccination officer; and, subject to the provisions of the Vaccination Acts, 1867 to 1898, and of this Order, shall obey all lawful orders of the guardians which are applicable to his office."

The officer here is not to wait for instructions by the guardians to prosecute, or to ask for instructions, or even to report his proceedings as a matter of course. His sole duty to the guardians in this connexion is that "when required" he shall "give them full information" as to his doings. It will be interesting to note how those boards of guardians which in the past have systematically and ostentatiously neglected their duties under the Vaccination Acts will receive this very plain intimation that the vaccination law can be administered in spite of them. Not only can they not prevent the officer doing his work, but they are bound (Article 29) to pay the costs of his doing it and also (Article 28) to report to the Local Government Board if he is not doing it, and the Board (Article 16) has the power to remove any officer.

We have already seen that it is the duty of the

guardians, with the approval of the Local Government Board, to fill up vacancies. No article in the Order deals with the case of guardians refusing to fill up a vacancy. In such an event perhaps the Board would itself make the appointment. That would certainly be better than sending the guardians to prison as was done long ago in the Keighley case, where the local authority refused to administer the law. But if the Board should have to take any proceedings it would certainly be greatly strengthened by the fact that the Conscience Clause removes the last shred of reasonable complaint from the path of the most obstinate anti-vaccinationist. A board of guardians which would endeavour to prevent a fair trial of the new law by such indirect means as are here indicated would be most unlikely to receive public sympathy, excepting in places which have come to regard law-breaking as a communal virtue, and notwithstanding the long crusade of the Anti-vaccination League such places are not yet numerous, if, indeed, they are to be found at all, in England.

WE published last week a table of the entries of students for the year 1898–99. An ordinary person would have to be endowed with very special intelligence to grasp the full significance of tables purporting to give the comparative facts in successive years as to the entries of medical students in the various medical schools of London and the provinces, for medical education is now made up of many different elements and includes a great variety of subjects. Besides, in London especially, certain of the schools make valuable provision for special courses which are as a matter of fact often taken by persons who receive their ordinary medical education elsewhere. Thus, King's College, with its classes for special courses, figures in the table as having a larger total than either St. Bartholomew's or Guy's or any other hospital and yet has a com aratively small entry for the full course. These special courses constitute an important feature in the efficiency of schools, especially schools for those who are contemplating the taking of degrees or any other departure from the ordinary curriculum of medical education. Time was when two or three lecture-rooms and a dissecting-room constituted the plant of a medical school. All this is changed. The development of histology, biology, and chemistry, with new and more practical methods of teaching them, have trebled the cost of such plant, and the completeness with which such special courses are provided for and the efficiency of the teacher who gives them count for much in the attraction of a school. Thus one laboratory or one or two good teachers in special subjects may give character to a school and draw a large number of students to it. In the table of entries for the current year, 1898–99, the whole number of entries for special courses in London is 556—almost as large a number as the entries for the full medical course. It is not unreasonable to suppose that in the new developments of medical education likely to arise out of the reconstruction of the University of London there may be some further specialisation of work in the various schools, with advantage alike to them and to the cause of medical education.

Perhaps the chief interest of the table is in its first column, which seems to show as regards London a considerable increase over the numbers entering in the two previous years. In 9 out of the 12 London schools there is an increase as compared with the previous year. But it is not very considerable and in some of the larger schools, the entries at which perhaps are the best guide to the rate of increase, there is a diminished number of entries. This is the case at Guy's, the London, and University College Hospitals. The last two columns of the table, it is true, show an increase of the total entries in 1898–99 as compared with 1897–98, of 345. This may seem rather serious to those who had been hoping that the undue influx into the profession which has been going on of late years was at least moderating. Such persons need not be over-anxious so far as this particular table is concerned, for a careful study of it will show that the increase of 345 is largely explained by the large number of entries for the special courses at King's College to which we have already alluded, no such return having been included in the table of last year's entries.

It is interesting to notice the activity of the provincial schools. The entries at the University of Cambridge for full students—127—exceed those of any other English school, metropolitan or provincial. Those at Owens College, Manchester, 66 in number, with an almost equal number of entries for special classes, make the total entries much larger than those of any other provincial school. Those of University College, Liverpool, come next. The whole entries for the provincial schools amount to nearly half of the whole of the entries for the metropolitan schools. As to dental students the majority of medical schools do not have any special courses for this department of practice. In London and in the provinces, respectively, only five schools provide dental courses. The entries for these in London were 93 and for the courses in provincial schools 58.

THE second trial of JOHN LLOYD WHITMARSH at the Old Bailey for the murder of ALICE BAYLY terminated on Oct. 28th. The jury, as we have already announced, found the prisoner guilty of wilful murder and the judge sentenced him to death. As, however, it was certain that the death sentence would not be carried out, if only because of the strong recommendation to mercy preferred by the jury, we decided to await the Home Secretary's decision before commenting at length upon the case. The death sentence has now been commuted. It will be remembered that at the previous sessions of the Central Criminal Court the jury were unable to agree.

The indictment charged that on June 18th the prisoner performed an illegal operation upon ALICE BAYLY for the purpose of procuring abortion. The history of the case is remarkable (1) in that the means adopted by WHITMARSH included, besides operative interference, the local application of a salt of mercury; (2) that it was the first case of murder in this country in which the accused was legally constituted a competent witness; and (3) that the prisoner was convicted of the capital offence of murder. The cause of death of the unfortunate woman who paid the penalty of sacrificing her life for her participation in the crime was not challenged by the counsel for the defence.

The evidence of Dr. STEVENSON and Mr. BOND, the chief medical witnesses for the prosecution, placed the matter beyond all reasonable doubt. There was ample testimony that the deceased succumbed to the combined effects of septicæmia and mercurial poisoning, and it appears equally clear that the latter was introduced into the system by a topical application. Whether this was done with the intent to produce a local irritant effect and thus to ensure the intended consequences of instrumentation or with a view to prevent sepsis seems doubtful. We may remark parenthetically that some years ago a Belgian was convicted and sentenced to fifteen years' penal servitude at the Old Bailey for having procured abortion by applying acid nitrate of mercury to the cervix uteri. The victim in that case succumbed to acute mercurialisation and not to septicæmia.

WHITMARSH, on counsel's advice, did not give evidence before the coroner, nor did he attempt previously to the trial to exculpate himself save by a direct denial as expressed in the following terms: "It is an abominable lie." We do not question that counsel would in his discretion advise what he considered best to serve the interests of his client; at the same time it must be conceded that there was much force in Mr. GILL'S accentuation of the fact, in his conduct of the prosecution for the Crown, that "the prisoner had not given any explanation although he had had every opportunity of giving one." If the prisoner knew that he was guilty we can understand that he would feel that silence on his part would be the best safeguard against self-incrimination; for any statements made by him would clearly lead to further investigation for the purpose of proving the truth or falsity of the same. But at the trial he would be on safer ground, although submitting himself to the ordeal of a cross-examination, for whatever the forensic ability of counsel and however damaging the answers elicited might be the effect would necessarily not be commensurate with the direct testimony of disinterested witnesses. We subscribe to the proposition that the new Act of Parliament which permits prisoners to give evidence on oath will in the main be a help to the innocent and a pitfall to the guilty. At the same time it is not an unmixed good, for it is possible that juries may view with distrust the presentment of a prisoner's innocence by counsel, unless supported by the prisoner's appearance in the witness box. Nor on moral grounds can it be unconditionally approved, since obviously it will be a powerful incentive to perjury. The late sessions at the Old Bailey will be memorable in that two persons were convicted of murder after denying on oath their guilt, and yet in each case the circumstantial and direct evidence for the prosecution thoroughly warranted the verdicts. We are also of opinion that Mr. Justice BIGHAM justly admitted the dying declaration of the deceased woman BAYLY that attempts had been made upon her to procure criminal abortion; but we have serious misgivings as to the value of such statements, being far from satisfied that the belief of approaching death will always nullify the human tendency to minimise one's own offence and to shift the responsibility to others' shoulders. Besides, on medical and psychological grounds a person whose decease is judged to be imminent is not in a fitting state to carry on such intellectual processes as are worthy to form the basis of evidence whereby the life of an individual may be sacrificed or his liberty taken away.

Lord BRAMWELL'S judgment that a person who by illegally procuring abortion sacrifices the life of the woman is guilty of murder has not been reversed or, as far as we remember, been appealed against. Judges, however, have generally shown a tendency to a lenient interpretation of the law by directing juries that they might find circumstances which would warrant them in returning verdicts of the minor offence of manslaughter. We commend the singularly clear and logical charge delivered by Mr. Justice BIGHAM at the trial of WHITMARSH. The learned judge said: "If a person in committing a felonious act compasses the death of another he is guilty of murder unless he could not reasonably infer that death would result as a consequence of the act." Now, it must be admitted that every medical man knows that the procuring abortion is fraught with danger to the life of the patient even where precautions are taken to avoid the incidence of septic infection. How infinitely more dangerous, then, is the procedure where no such measures are adopted. The guilt of WHITMARSH having been proved we fail to see any extenuating circumstance, save that he had every reason to desire that the death of his poor accomplice should not ensue. There was, of course, in his crime an absence of malice prepense which is generally held to be the essence of homicidal intent; and for this reason we share in the relief which it is known is felt by the public at the reprieve which has been extended to the wretched man. But legally the death sentence was justified. If only to meet cases of criminal abortion it would be well if our penal code recognised "degrees of murder."

Annotations.

"Ne quid nimis."

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

THE following letter has been sent on behalf of the Association, signed by Sir Samuel Wilks, Sir William Mac Cormac, and Sir William Broadbent, to the Chairman of the London County Council:—

"The attention of the Organising Committee of the National Association for the Prevention of Tuberculosis has been directed to the recommendations of your Public Health Committee with regard to the institution in London of an administration for the prevention of disease conveyed by milk and meat. Our Association is more particularly interested in the question of the prevention of tuberculosis, and we understand that your Committee recommends that the Council should be empowered to take the necessary steps for preventing the sale of tuberculous milk and meat. On behalf of our Association we beg to state that we are strongly of opinion that there is urgent necessity for such measures, and that if the Council takes steps to prevent the sale of tubercle-infected milk in London and to ensure the proper examination of meat by the substitution of public for private slaughter-houses there is every prospect of reducing the present mortality from tuberculosis, especially among the poor, who more particularly suffer from the effects of milk and meat of dangerous quality. We regard it as fortunate that the recommendations of the Royal Commission on Tuberculosis are being so promptly considered by a body which has always manifested the greatest interest in the

public health. We are much impressed by the conviction that the action of the London County Council in this matter will set an example which is likely to be followed throughout the kingdom. We therefore respectfully urge upon your Council the eminent necessity of adopting the recommendations of your Public Health Committee."

A recent leading article in our columns advocated strongly that the recommendations of the Public Health Committee of the London County Council with regard to securing a pure meat- and milk-supply for the city should be immediately adopted, and so universal is this opinion among all who, like the signatories of the above letter, understand what are the real factors in the spread of disease, that we can hardly suppose that the County Council will do otherwise.

THE MILK-TRADE AND DIPHTHERIA.

ON Oct. 28th Evan Morris, a milk-seller of New North-street, Holborn, was summoned at Clerkenwell Police-court on three counts for not immediately upon an outbreak of diphtheria within the building in which he kept milk giving notice of the same to the London County Council, for not removing the milk immediately on the outbreak of the disease, and for keeping milk in the building before it had been disinfected. On the first summons defendant was found only technically guilty, as he had given notice to the Holborn Board of Works. On the second summons it was proved that defendant's wife had served milk in the shop after removal of the same and the utensils had been ordered by the London County Council's inspector. Costs only were ordered on the third summons, but on the first there was a penalty of 5*s*. and 2*s*. costs and on the second 5 guineas penalty and 2 guineas costs. We do not think this penalty severe. Milk is such a typical breeding ground for the diphtheria bacillus and such a universal vehicle for the conveyance of infection to young children, who are the class of the community more fatally affected by the disease than any other, that too much care cannot be exercised in the prevention by every possible means of the contamination of this essential article of diet. We make every allowance for the difficulty which the lay mind has in realising the importance of the hygienic measures which have been laid down by scientific men for the preservation of the health of the community, but it must be shown that non-compliance with such regulations will result in punishment whether the offenders understand the reasons for them or not.

OPTICAL DIPLOMAS.

A NOTICE appeared in the *Times* of Oct. 31st to the effect that the Spectacle Makers' Company has been engaged for some months past in perfecting a scheme for the granting of optical diplomas to those who pass an examination. The committee has appointed as examiners Professor Silvanus Thompson, Dr. G. Lindsay Johnson, and Mr. G. Paxton. The examinations are being held this week and it is stated that as many as 150 candidates will attend. The presence of Dr. Lindsay Johnson on the Board of Examiners confers an interest upon the examination which it would not otherwise possess and leads us to make a few comments upon it. There can be no doubt that Dr. Lindsay Johnson is in every way well qualified for the duties of an examiner, a post which we have not the slightest doubt was entirely unsolicited on his part. He is a distinguished graduate of the University of Cambridge, has seen much eye practice, and has written various papers of interest and value. His coadjutors are Professor Silvanus Thompson, a gentleman of high scientific status, and Mr. G. Paxton, who is a cultivated and intelligent optician. That an examination should be established to test the knowledge of those to whom the manufacture of instruments of precision, such as are daily ordered by the ophthalmic surgeon, is entrusted is reasonable enough. It is right that they should show that they understand the object for which such instruments are prescribed, but it will require, we think, much care on Dr. Lindsay Johnson's part to ensure that the examination for which he will be held responsible is confined to the strictly physical aspect of the subject and that it does not infer a kind of irregular professional status and lead those who have passed it successfully to conclude that they are by their capability of recognising the nature and extent of the physical defects of their customers' eyes thereby qualified to give an authoritative opinion in regard to the treatment to be adopted. We note in the *Optician* of Oct. 27th, 1898, that at a special meeting of the Spectacle Makers' Company Mr. Maw called attention to a custom which was gaining ground—that of opticians selling drugs. It seems to us not a very long step to the employment of certain drugs for what might probably be regarded by a zealous optician as purely optical purposes but which would really be a serious infringement of the law and might lead to very unpleasant results. In some respects, therefore, it is perhaps as well that the guidance of the examination should be partly in the hands of a medical man of good standing who will be able to point out to the Company, his co-examiners, and the candidates what is or is not in the province of the optician. Still the ground is a somewhat dangerous one, and we shall look with interest at the style of examination inaugurated by Dr. Lindsay Johnson and the kind of question to which he expects an answer to be given by those who present themselves for the purpose of obtaining the diploma.

"VICARIOUS URINATION (P)."

UNDER this heading a most extraordinary case is reported in the *Canada Lancet* (October) by Dr. Q. T. Rice, of Woodstock, Ontario. The patient, aged thirty years, a daughter of a farmer, of a somewhat nervous temperament and rather weak intellect, had been attacked three years before with a cystitis of two or three weeks' duration, the attack being somewhat severe, there being complete atony of the bladder, necessitating the use of the catheter during that period. This attack gradually subsided, though considerable tenderness remained. One year after this attack she was again laid up with involuntary twitchings or spasms of the whole body; accompanying this attack there were a number of discolourations of the right leg and thigh, extending almost entirely over the limb but without tenderness. This after a few weeks gradually disappeared and the patient regained her ordinary health. In the following year the atony of the bladder returned. The patient was again obliged to resort to the use of the catheter three times a day, about ½ oz. of urine being withdrawn upon each occasion. During this time her general health suffered severely. The feet then began to swell slightly and a peculiar complication set in. The secretion in the bladder gradually diminished but was compensated for by an exudation of fluid from the anterior portions of the lower limbs between the knee and ankle. This fluid was voided regularly three times a day, the amount gradually increasing, the average being about from 30 oz. to 40 oz. per day. The fluid simply oozed from the skin without any abrasion of the skin or discolouration or even the slightest œdema being present; the patient would realise that the fluid was about to issue and would place her feet upon a stool and a dish beneath the heels. Dr. Rice was present at one time when it began and can therefore vouch for the correctness of the statement. The fluid was of an amber colour, similar to healthy urine; its specific gravity was 1010; there was an absence of albumin or sugar; it had a strong smell of urine upon boiling, with a distinct ammoniacal smell after

standing; examination also showed the presence of uric acid. After this symptom showed itself the patient's health rapidly improved and became fairly well established, so that she had little to complain of except the inconvenience caused by this peculiar phenomenon. This condition lasted about two months, when, after an unusually large quantity of fluid had been passed, it ceased altogether and urine began to pass through the urethra. The natural state of affairs gradually became established, but the patient became again very ill. The spasms reappeared, accompanied by headache, swelling of the feet, and great swelling of the face. These symptoms lasted about a week and then gradually disappeared, and the patient regained her usual health, which has continued until the present time. Dr. Rice naturally asks: "Was this vicarious urination? If so, how is it to be explained? Through what channel did it travel? The fluid certainly stood the tests for urine, and its elimination enabled the patient to live."

THE LIVERPOOL HEALTH COMMITTEE.

ALDERMAN E. H. COOKSON, the chairman of the Liverpool Health Committee, referred to the work of the department during the past year at the final meeting of the committee for the municipal year held on Oct. 20th. The sewers constructed during the year extended to 4¾ miles; sewers reconstructed, 3¾ miles; sewers constructed by builders and supervised by the sewerage department, 4½ miles; sewers, brooks, and culverts repaired, 1⅛ miles; sewers, brooks, and culverts cleansed, 13¾ miles; sewers ventilated as constructed, 8⅞ miles; main sewers flushed, 289¼ miles; private house drains flushed (twice in the year), 3000 miles; deposits removed from sewers, 1038¾ loads, &c. Much benefit had already resulted from improved scavenging and the more liberal use of water for sanitary purposes. The remarkable connexion between filthy streets or a stinted water-supply and choleraic disease had been so frequently brought to the notice of the committee that there was no need to emphasise it further. By means of Parliamentary powers recently obtained they could deal more stringently with certain articles of food exposed for sale, and already the committee had put into practical operation the recommendation to test by examination the suitability of all candidates for the post of inspector of meat. They had also been granted power to close some of the city burial grounds which were found to be unwholesome. The recent Vaccination Act was referred to by the chairman in terms of strong condemnation. It could not be regarded without dismay by every sanitary authority in the country. Liverpool is, or was, one of the best vaccinated communities in the country—a result attained only after infinite care and pains by vaccination officers, guardians, and others. The consequence of this has been that Liverpool has been for many years practically free from those serious outbreaks of small-pox which attacked it periodically before vaccination was so thoroughly carried out. Exposed as Liverpool is to the importation of small-pox from almost every corner of the globe in which it may be prevalent, those responsible for the health of the city cannot but view with the greatest concern the Act which already in its brief existence has had the pernicious effect of raising the proportion of children who remain unvaccinated something like 50 per cent., and has added materially to the difficulty of those responsible for vaccination. The chairman went on to say that the permanent appointment of a bacteriologist was found to be a much more satisfactory arrangement than that which had hitherto prevailed of obtaining tests from time to time. Besides numerous researches into the conditions of food some careful investigations were set on foot into the sanitary aspect of the gas supplied to the city and to the consequences of the use of carburetted water-gas. With a view to ensure greater promptitude in dealing with infectious disease the committee have engaged a staff for the purpose of stripping the walls of apartments in which infection has occurred with very satisfactory results. It cannot be doubted that the sanitary work undertaken by the City Council during the ten years ending 1891 was less extensive than it would have been had not the Registrar-General's remarkable over-estimate of the population during that time misled the council. It is, however, fair to say that the Registrar-General applied to the municipal authorities for assistance in the revision of his estimate, but they did not respond to his suggestions. Returns involving an error of more than 20 per cent. were officially published by the Registrar-General during a great part of those ten years, and this had the effect of obscuring the necessity for sanitary work; and it was only at the census of this decade that the fallacy was exposed and the real need for more adequate sanitary measures became manifest. The excessive mortality of infants in some districts of the city is still a matter for much concern, being largely the result of unwholesome feeding. The general health of the city for the first six months of the year has been exceedingly satisfactory, the rate of mortality being 21·7, as against 22·0 per 1000 during the first six months of last year. During the three quarters zymotic disease has been kept well under control and shows a remarkable improvement on the preceding year, the numbers reported of the various forms of zymotic disease being upwards of 2000 less than last year, when the total number of cases was upwards of 6600. The diminution in the total number of cases of typhus fever, typhoid fever, and scarlet fever is no less than 53, 47, and 533 respectively.

THE LIBRARY OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY.

AT the annual meeting of this society, which was held on Oct. 12th, the honorary librarian, Mr. L. M. Griffiths, presented his report upon the condition of the library. It now consists of 7180 volumes, including 671 duplicates, and receives 170 periodicals. It also possesses busts of William Budd and James Syme. But this library is not the only medical library to which the medical men of Bristol have access. The Bristol Medical Library is made up of the libraries of the following bodies, which possess respectively books in the under-mentioned numbers: the Medico-Chirurgical Society, 7180 volumes; the Faculty of Medicine, 6539 volumes; the Royal Infirmary, 3650 volumes; and the General Hospital, 1381 volumes—a total for the conjoint libraries of 18,750 volumes and 204 current periodicals. The catalogue is now nearly complete—if, indeed, a library catalogue can ever be complete—and has been made easier for reference by the addition of a card catalogue. As the library of the Bristol Medico-Chirurgical Society only dates from 1891 it will be seen that the labours of the members and the librarian have been by no means in vain. Mr. Griffiths, in resigning his post, which he has held uninterruptedly since his election in 1891, referred to the fact that the conjoint library scheme demanded that the new librarian should be a man of many parts.

"No longer must he be one who has little more than a capacity for remembering the titles of the works under his care and an interest in the quantitative development of the library. Now he must be a scholar, acquainted with languages; a man of wide literary outlook, of comprehensive professional knowledge, of large bibliographical acquirements, gifted with the power of lucid exposition in order to make others realise the resources of their library and able to give demonstrations of the practical and historical nature of its grouped contents. In addition to all this, he must be prepared to give a large amount of time to the superintendence of the library and its correspondence, and able from his position to get in touch with librarians in all parts of the world and from his knowledge to judge with accuracy in what particular respect advantage to his library might be

best secured. Also, to know how to render help to readers who turn to him for assistance must not be lost sight of among other qualifications of the librarian, and even this must be exceeded if the library is to give its best to the profession, for he must be ready, even before he is asked, to point students to the avenues by which they can reach the goal they are seeking."

These are wise and weighty words. A good librarian is possibly like a poet—born and not made. Much can be done by training, but if the capacity is not there it cannot be inculcated. Mr. Griffiths has done such admirable work that we can only say we are sincerely sorry that he feels himself unable to continue in the position in which he has laboured so worthily.

ANOTHER ROMAN OCULISTS' SEAL.

AFTER a somewhat longer interval than usual intelligence comes of the discovery of another Roman oculists' seal. This time the relic has been disinterred in Germany, at Frankenthal, in the Rhine Valley. The seal has been described and edited by Dr. F. J. Hildenbrand and is of interest because the letters engraved upon it are in Greek as well as Roman characters and also because their interpretation presents many difficulties. The inscription which is upon the four edges of the seal is as follows: A.A.Γ.K.O: C.Δ.A.K: A.T.M.P: K.K.O. The first three letters are probably initials concealing the name of the proprietor of the stamp. The final K.O. on the face of the seal denote either Kollyrium (or Krocodes) Opobalsamatum. If the K. is for Kollyrium then this is the second indication upon these documents of opobalsamatum as a remedy by itself. Upon one of these occasions the disease ad caliginem is given as the disease for which it was a remedy; that is to say, for defective vision. If the K. stands as initial for Krocodes, and we should therefore read Krocodes Opobalsamatum, then the text is unique, though we have a seal found in Bavaria which reads "Crocodes Diaopobalsamutum." The C.Δ. may stand for Crocodes Dialepedos (or Diamisus) and the A.K. for Ad Caliginem; but Dr. Hildenbrand thinks all the final letters of the four texts are initials of collyria and thinks the K. is for Krocodes. The P terminating line 3 is most likely a Collyrium, probably standing for Paccianum, Palladium, Penicillum, Pelagium, or Pyxinum. The final K.K.O. are almost certainly an abbreviated Kontra Kaliginem Oculorum. This leaves the A.T.M. unaccounted for. They may be short for Lippitudinem, for which Penicillum is often indicated as a remedy; or the M. may simply stand for Mixture, leaving the A.T. still a matter for conjecture. It is to be hoped that Capitaine Esperandieu will express his views soon upon the subject, as he is the greatest authority in this branch of research.

NERVE LESIONS IN BURNS.

AN article on this interesting subject appears in the *Archives de Physiologie* by Dr. Carlo Parascandolo. The causes of death after burns have been studied by many pathologists. It is well known that when death occurs in the course of an hour or two numerous visceral congestions are to be discovered. Curling and Erichsen noticed that the duodenum is the special seat of lesion, and that it becomes quickly inflamed and at a late period ulcerated, and Dupuytren, in summing up the conditions found after death from burns, attributed the greater part of the symptoms observed during life—as fever, vomiting, constipation, convulsions, hectic fever, and at a subsequent date diarrhœa—to gastro-intestinal irritation, the conditions varying with the date after the injury. When death was immediate after exposure to the flames there was considerable congestion of the intestinal mucous membrane with occasional hæmorrhages, and the same appearances were presented by the bronchial mucous membrane; sanguinolent fluid was also to be found in the arachnoid, pleura, pericardium, and peritoneum. After survival of some days the appearances of acute gastro-enteritis were visible, and at a still later period the intestinal tube was generally discoloured; there were red spots with or without ulceration and engorgement of the mesenteric ganglia. Dupuytren attributed these changes to sympathetic irritation. Later observers have found congestion of the brain and of the pons. Sir Samuel Wilks called attention to the frequency of purpuric spots on the pleuræ and in the cortical substance of the kidneys, and to fibrinous deposits in the veins, which he regarded as an indication of changes in the blood. Pneumonia is of common occurrence. Dr. Parascandolo experimented on dogs and rabbits and paid particular attention to the lesions of the nervous system occurring after burns of various degrees of severity. He found retraction of the grey matter of the cord with deformed posterior cornua and chromatolysis, both perinuclear and peripheric, in the cells; sometimes what he terms "homogeneisation of the protoplasm"; sometimes granular degeneration of chromatin with presence of chromatin rods in the nucleus; and sometimes total achromatolysis with destruction of the linin network. The protoplasmic processes presented varicose atrophy or lost their connexion with the cell body and were segmented—in fact, degeneration of the cord was the rule and this always affected the posterior cornua. The conclusions which he considers himself entitled to draw are that as the result of burns ptomaines make their appearance in the blood and in the muscles and other organs of animals suffering from them—a view which has been advanced by Dr. Parascandolo in a previous publication and which has been substantiated by researches which he made in conjunction with M. Ajello—and that the ptomaine thus produced is the cause of death after burns, as it brings about in the nervous centres anatomical changes which, however, are not *per se* capable of causing death. The alterations observable are similar to those met with in different types of infection. It is particularly worthy of notice that these ptomaines are capable when inoculated of producing in the nerve centres the same lesions as are observed in cases of burn.

"RETURN" CASES OF SCARLET FEVER.

CASES of this kind have been but little in evidence of late—a fact which may be due to two causes: greater care exercised in the discharge of patients from isolation hospitals and an appreciation on the part of the public that it is extremely difficult to prevent the occasional occurrence of such cases. We have discussed this question many times before and we have given due weight to that view of it which regards residual infection in the air and other passages of the body as one of the chief causes of these annoying manifestations. Dr. Niven of Manchester has, amongst others, devoted much attention to this subject and he has so modified the procedure at the Monsall Fever Hospital as to afford practical illustration of the importance of this aspect of the question. The method of dealing with the cases before discharge has been as follows: certain wooden pavilions were set apart as convalescent wards for scarlet fever cases, it being understood that no case was to be sent into these wards until six weeks had elapsed from the onset of the illness or until all signs of desquamation had disappeared. In the first instance only such cases as were free from discharges from any of the orifices, such as the nose or ears, were admitted, but it was found difficult to carry out this last particular. The convalescent children were encouraged freely to take exercise in the open air with a view to the oxidation of infective material and the dislodgement of infective particles. During the continuance of

this practice not one return case occurred in connexion with Manchester patients discharged from the convalescent wards. Such cases as did occur during 1897 occurred apparently when the necessary conditions as regards the convalescent wards were not being rigidly adhered to; and when there was much pressure on the accommodation the rigidity of the practice had of necessity to be relaxed. To carry out this form of additional isolation under stress is obviously impossible at the present time in most of our fever hospitals, and "return" cases must, we fear, be looked for from time to time. Still, efforts may be made in many places to carry out this plan, even although the circumstances will only admit of its partial application. It will be for the medical officers of fever hospitals to obtain, as far as is possible, sufficient convalescent hospital accommodation to enable complete isolation to be carried out. Doubtless, however, there are other sources of the so-called "return cases," and in spite of every precaution we must not be altogether surprised at the occurrence now and then of such cases.

THE ABUSE OF MEDICAL CHARITIES.

MEDICAL Missions, if properly conducted, serve a very useful purpose, but, like every other good thing, they are liable to abuse. An inquest was recently held by Mr. E. N. Wood, the deputy coroner for Bermondsey, upon the body of a child, aged two years, the daughter of a tinplate worker. The deceased child had attended at the Oxford Medical Mission in Abbey-street, but becoming worse Mr. J. H. Collymore was called in. The child, however, died from peritonitis. Mr. Collymore, in the course of the inquest, complained of the indiscriminate way in which cards of admission to the Mission were given out, without any regard to the circumstances of the recipients. The coroner coincided and remarked that it was quite time that hospital authorities took steps to prevent such abuse. In his opinion two-thirds of the patients who were treated at hospitals ought not to be treated there, for they were well able to pay. The jury also expressed the same opinions in delivering their verdict. Of course, we have said these things over and over again, but it is consoling to find a coroner's jury taking the same line as ourselves. We do not know what the status of the Oxford Medical Mission may be, for it does not appear in the Post Office Directory; but if it should be a reputable institution—and by its name it should be—we would counsel the authorities thereof to take more care in the distribution of their relief orders.

ANKYLOSIS OF THE SPINE, HIPS, AND SHOULDERS—"SPONDYLOSE RHIZOMÉLIQUE."

DR. PIERRE MARIE, who has earned so much distinction in describing new diseases of the skeleton, thus denominates a rare condition characterised by extreme rigidity of the spine and stiffness more or less complete of the hip- and shoulder-joints. A summary of his paper published in the *Revue de Médecine*, April, 1898, appears in a recent number of the *Revue des Sciences Médicales*. He has observed three cases and collected four. The stiffness of the spine is complete in the lower half; higher, especially in the cervical region, the column may preserve for some time a certain mobility. There is kyphosis due to a considerable and abrupt curvature of the cervical spine and a little to curvature of the superior dorsal spine. Hyperostoses are not limited to the inferior part of the spine, for osseous projections can be felt on the posterior wall of the pharynx. The hips are fixed in a position of flexion and adduction; the shoulders are much less affected. The movements of the knees are more or less limited, without true ankylosis. In two cases there were nodosities on the hands. The respiration is entirely diaphragmatic. All the cases occurred in adult males. They are too few for a general statement of the etiology and course of the disease, which, according to Dr. Marie, should be distinguished from chronic deforming rheumatism, from hereditary traumatic kyphosis, and from acromegalic deforming polyarthritis.

THE BRITISH RED CROSS SOCIETY.

THE secretary of the British Red Cross Society encloses to us for publication the following letter received from Surgeon-General W. Taylor, the principal medical officer with the forces in Egypt, to Lord Wantage, the chairman of the Council of the Society, which seems to us to be of sufficient interest for publication.

Cairo, Oct. 16th, 1898.

DEAR LORD WANTAGE,—Having come down in the *Mayflower* on her last trip from Assouan, I feel I cannot let a mail go out without writing to thank you, and through you the National Aid Society, for the great assistance given to the Army Medical Service, in bringing back the sick and wounded from the Soudan. I have written an official expression of my opinion of the great benefit and comfort the poor fellows, officers and soldiers, obtained by being saved from the trying railway journey from Assouan to Cairo. I have not a doubt that several lives were saved by that, and I am quite sure the convalescence of many was hastened and made safe by the comfortable, pleasant river trip. Colonel Young deserves all praise for the courteous and kind way in which he worked in harmony with the officers and men of the Royal Army Medical Corps. Personally, I feel very deeply indebted to you for the invaluable help given to the Medical Service in the way I have mentioned, and I beg you to accept my sincere thanks for having enabled me to transport such a number of the sick and all the wounded in such comfort.

I am, yours very truly,
W. TAYLOR.

FUNCTIONS OF THE OPTIC THALAMI.

THE October number of the *Archives de Physiologie* contains an article giving an account of some recent researches made by M. J. Sellier and M. H. Verger on the functions of the optic thalami. The deep position of the thalami renders them difficult of access and it is not surprising that differences of opinion in regard to their function should exist, and that whilst Fournié, Ferrier, and Lemoine came to the conclusion that there were sensory troubles after destruction of the optic thalami, Nothnagel failed to find any defect in the general sensibility of the body, but noticed that animals in which the thalami were destroyed on both sides seemed to have lost the sense of the position of their limbs, since without being paralysed they allowed them to remain in any position in which they were placed. M. Sellier and M. Verger determined to make some further researches with improved methods of investigation, with the object of ascertaining with greater exactness the effects of injury to this region of the brain. They selected the dog and adopted the plan of bipolar electrolysis, in which fine needles were made to penetrate the substance of the thalami and a current of a mean strength of 10 milliampères was passed. In none of these animals were any symptoms of meningitis observed, and the necropsy in each case showed that the destruction of tissue was small (of about the size of a grain of maize) and sharply defined. The animals were allowed to recover from the operation and tested systematically for some weeks. It was found when examined from eight to ten days after the operation that motility and sensitiveness to heat were always intact. The sense of the position of the limbs and the tactile sensibility were always manifestly affected. At the conclusion of a fortnight the disturbances of sensibility had entirely disappeared, which M. Sellier and M. Verger regard as the most important outcome of their observations. In two cases there were marked and permanent visual troubles, but they were unable to determine whether there was complete unilateral

blindness or a crossed hemianopsia. They satisfied themselves that the optic thalami have no influence on the voluntary movements of the animal operated on and that there were no compulsory or forced movements. Their sensory *rôle* is undeniable, but the thalamic anæsthesiæ, like cortical anæsthesiæ, do not include sensibility to pain and are transitory in duration—circumstances which support the view that the functions of the cerebral ganglia have similar if not identical functions to those of the convolutions of the brain.

THE POSITION OF COUNTY MEDICAL OFFICERS.

THE President of the Local Government Board gave notice in the last session of certain clauses which were to be inserted in a group of Water Bills before the House of Commons. The Executive Council of the County Councils' Association wish to have county councils and their medical officers placed in the same position in these clauses as that contemplated to be given to local sanitary authorities and medical officers of health with regard to water-supply. The fact that the medical officers to county councils were not to enjoy the same powers in regard to making analyses of water-supplies as the medical officers of health to sanitary authorities was probably an oversight which will be remedied when the clauses are introduced into the House.

REPORT OF THE CAPE OF GOOD HOPE VETERINARY DEPARTMENT FOR 1897.

THE Blue Book issued by the Department of Agriculture for the Cape of Good Hope is especially interesting this year on account of the recent trouble which there has been with rinderpest amongst the cattle. The report contains a full account of the work which has been done by the chief colonial veterinary surgeon, Mr. D. Hutcheon, and his assistants. At the beginning of 1897 the veterinary staff was increased to 28 men, but even with this number some districts had to be neglected or supplied with unqualified men specially instructed in the work of inoculation. It is interesting to note, at a time when the relations between the English and Dutch residents are often somewhat strained, that "the most urgent demands for veterinary surgeons came from the districts in which the farmers are principally Dutch, who as a rule do not professedly estimate the services of these officers very highly"; and again, "when inoculation had practically ceased in many districts the local committees and farmers strongly protested against the veterinary surgeons being removed, as cases of rinderpest continued to reappear." The report gives a complete history of the course of the disease from its commencement to the present time, particular stress being laid upon the various methods carried out for preventive and curative treatment and the results attained. Dr. Koch's suggestion of injection with the bile of diseased animals and Dr. Edington's modification of glycerinated bile were each tried extensively, as was also the inoculation with serum obtained from animals which had recovered from a severe attack of rinderpest spontaneously contracted. The results of each are given, those of the serum treatment appearing to come out the best, particularly with regard to the length of time during which immunity could be obtained. One point especially noticed was that, "although all the cattle are given the disease in a more or less modified form by the application of the serum treatment, it is a curious fact that infection is rarely carried from such a herd if ordinary quarantine precautions are taken," whereas in several of the reports reference is made to the fact that the disease was introduced into districts which had up to then been free by the use of the bile inoculation intended to confer immunity. Mr. Hutcheon speaks very highly of the serum treatment and says, in concluding his report upon it: "It is too early to generalise on the subject, but I entertain hopes that by means of serum inoculation systematically applied the disease may be eradicated from the country." The second part of the report is devoted to the accounts sent in by each of the assistant veterinary surgeons, almost all of whom speak much more favourably of the serum treatment than of any other used. Considering the enormous amount of work which had to be done and the almost insuperable obstacles and difficulties which had to be overcome it must be admitted that the work performed by the Veterinary Department of the Cape Board of Agriculture has been very satisfactory, and that a great deal has been added to our knowledge of the treatment of rinderpest and diseases of a similar nature. In fact, it is quite apparent that more has been discovered with regard to this disease during the past twelve months than during the many hundreds of years in which we know it has existed. An interesting paper by Mr. Maberly dealing with the subject will be found at p. 1189 of our present issue.

PHYSICAL EDUCATION IN ITALY.

UNDER the auspices of the Minister of Public Instruction the following programme of athletic sports was recently carried out at Turin, the competitors being pupils of the various educational institutions throughout the country. 1. Speed: 165 yards in a straight line over the flat and without obstacles. 2. Endurance and speed: about 6 miles on the flat. 3. Swimming: 110 yards with the current. 4. Rolling or throwing the discus. This contest consisted of two parts. In the first the discus was rolled as far as possible on the flat; in the second it was thrown through the air, the distance being measured to the spot where it first alighted. 5. Pitching an iron quoit weighing 22 lb. 6. Casting a javelin weighing about 3 lb. at a rectangular target 5 ft. high and 3 ft. broad. The distance of the target from the casting-point is not stated. 7. Pole-leaping with the help of a spring-board, the leapers to begin at 7 ft. 8. Competitive gymnastic exercises of various kinds, including horizontal bar, parallel bar, vaulting horse, and trapeze rings. In addition to the foregoing teams of students numbering at least eight besides their captains took part in sundry games, among them being Association football, hockey, lacrosse, battledore, and lawn-tennis. In conclusion, prizes consisting of medals and diplomas were freely distributed amongst the victors.

THE LONDON WATER-SUPPLY.

LAST week we announced that the London County Council would at its meeting on Nov. 1st consider a report recently presented by the Water Committee. There was a question at the outset as to whether the Council would at once formulate its proposals and lay them before Parliament in the coming session or whether it would wait for the report of the Royal Commission. The former course was very definitely decided upon at the last meeting and the County Council's attitude on the whole question has now been unmistakeably defined. All the recommendations of the Water Committee were adopted. Upon two recommendations only, indeed, out of eight in all, did the Council go to a division. The first was that in which Mr. Dickinson moved that a Bill be promoted in the coming session of Parliament for the purchase by the Council of the undertakings of the eight metropolitan water companies by agreement or failing agreement by compulsion. To this Lord Onslow moved an amendment to the effect that it would be futile for the Council to lay down any policy until the views of the Royal Commission were known. The amendment was rejected by 101 to 15, a result which must not be regarded as a big Progressive

victory. so much as a sequel to the breakdown of the supply in the East-end of London. Our opinion expressed some months ago that the continued existence of a limited supply of water to the East-end of London would direct public opinion more forcibly than ever to the entire question of future administration and requirements with a view to speedy and satisfactory settlement is thus confirmed. The recommendation of the Water Committee that a Bill should be promoted in the coming session of Parliament for the purpose of empowering the Council to bring an additional supply of water to London from Wales was approved unanimously, as were the various recommendations dealing with the administrative area and the questions of arbitration and acquirement. Lastly, the recommendation that the Bill should contain provisions authorising the Council to proceed forthwith with the connecting and laying of mains and other works necessary in order to enable it to protect any part of the metropolis from want of water was adopted, a contrary amendment moved by Mr. Beachcroft being rejected by 70 to 28.

DEATH UNDER CHLOROFORM.

A DEATH under chloroform took place at the Victoria Hospital, Lewes, on Oct. 1st. We are indebted to Mr. Wilson, the house surgeon, for careful notes of the occurrence. The patient, a child, aged four years, was suffering from lumbar abscess connected with disease of the spine. Chloroform was administered from a modification of Skinner's mask (Schimmelbusch). The child breathed deeply at first, but the respiration then became gasping and finally ceased, and although the usual methods for resuscitation were applied the little patient did not recover. Heart movements were observed after respiration had completely ceased. The death was no doubt due, as Mr. Wilson points out, to paralysis of the respiratory centre through an excessive intake of chloroform at the commencement of the administration—a fact which is commonly overlooked by those who advise the use of Skinner's mask and like apparatus. By their use it is very difficult to counteract the irregularity of the patient's breathing and to lessen the dose during deep respiration. In theory it may be said that a careful anæsthetist will remove the mask when any alteration in respiration takes place, but in practice this can seldom be done, especially in the case of young children, who until they are fully anæsthetised rarely present the same rhythm of respiration for many seconds together. Of course, with a drop bottle more can be done to regulate the dose.

THE ROYAL COMMISSION ON SEWAGE DISPOSAL.

THE length of time which the recently-appointed Royal Commission on Sewage Disposal must inevitably occupy if the inquiry is to be at all comprehensive threatens to prove a serious obstacle in the way of progressive sanitation. The appointment of the Commission, in fact, has placed the whole question *sub judice*, and many local authorities whose duty it is to carry out in the meantime a system of sewage and refuse disposal in our towns and villages are inclined to wait until the Commission pronounce judgment upon the merits or demerits of the processes in vogue. Lord Iddesleigh recently addressed a letter to the papers in which he stated that the Commission would view with the gravest concern any postponement on the part of the local authorities of the carrying out of works for the purification of trade refuse and sewage until the Commission have issued their report. But what, we ask, are the local authorities in the meantime to do? They may well hesitate to construct work and spend money on a method with the risk that in two years' time, when the report is issued, the whole scheme may be condemned and a perfectly new departure insisted upon. Further, it appears that the Local Government Board now refuse to sanction a loan for the purpose of carrying on disposal works unless the process is recommended in the report of the Royal Commission now sitting, and how can this possibly be known? This refusal is obviously inconsistent with the expression of grave concern contained in Lord Iddesleigh's letter as to the postponement of the carrying out of refuse and sewage disposal works until the views of the Commission are known. The Local Government Board must, it seems to us, meet these cases in some way or other or a standstill in the sanitary affairs of the country may happen which might have very serious consequences.

THE USE OF MORPHIA IN BRIGHT'S DISEASE.

IN 1873 in the *New York Medical Record* Dr. Loomis stated that he had treated uræmic convulsions by the hypodermic administration of morphia with marked success; in THE LANCET of August 3rd and 10th, 1889, Dr. Stephen Mackenzie confirmed his conclusions. At the recent annual meeting of the American Medical Association Dr. Sydney Ringer of London read a paper on this subject, "The Use of Morphia in Bright's Disease," which was published in the Journal of the Association on Oct. 8th. Dr. Osler writes concerning uræmia: "For the restlessness and delirium morphia is indispensable. Since its recommendation by Stephen Mackenzie I have used this remedy extensively and can speak of its great value in these cases. I have never seen ill effects or tendency to coma follow." Dr. Ringer entirely confirms these statements. He finds that morphia hypodermically employed is of conspicuous benefit in uræmic dyspnœa and in uræmic asthma. But of course dyspnœa due to dropsy of the lung or fluid in the chest is not benefited. Also, the headache and sleeplessness of uræmic patients can generally be removed. Dr. Ringer has not employed this treatment in uræmic convulsions or coma, but has largely used it for other uræmic troubles, and is certain that it may be employed in these cases without risk and with every prospect of benefit.

THE INCREASE IN WEIGHT WHICH SOMETIMES PRECEDES DEATH IN VERY YOUNG INFANTS.

AT the present time, when the systematic weighing of new-born infants is regarded as an important feature in their management and when we are accustomed to look upon a steady increase in weight as an indication of their general well-being, it is a little startling to find that such an increase without any corresponding improvement in their general condition occurring in cases where the weight has previously been diminishing or stationary may be the first indication of impending, often rapid, and even in some cases of sudden death. Such is the conclusion that Dr. G. Durante draws in a paper upon the subject in the September number of the *Annals of Gynæcology*. As he points out, the oscillations in the weight of a new-born infant correspond fairly accurately to its general condition. Any loss of weight is as a rule proportional to the gravity of the condition causing it and usually persists until the time of death, while approaching convalescence is in most cases indicated by an increase in the weight of the child. But there are exceptions to this general rule, and Dr. Durante finds that an increase in weight sometimes occurs in the two or three days preceding death. Such an increase was observed by him in 11 out of 130 fatal cases. In some of these cases death followed a steady rise in the weight without any preceding fall or stationary period. Such cases are, however, rare. More commonly after a long stationary period a sudden increase occurred without any improvement in the general

condition, and the child died just at the time when he or she appeared from the weight to be gaining ground a little. In other cases after a more or less pronounced loss the weight rose suddenly and death ensued. The gain in weight varies from 50 to 75 grammes in from two to four days, but it may reach as much as 200 or 350 grammes in from five to six days, the increase, unaccompanied as it is by any appreciable improvement in the general health, contrasting strangely with the preceding loss or stationary period. Of the 11 cases observed 1 died with a suppurating sore on the leg, 1 from general tuberculosis, 2 were syphilitic, in 5 the only lesion present was marked fatty degeneration of the liver, while in 1 the thymus was hypertrophied and in another no cause for the fatal result could be found at the necropsy. Dr. Durante appears to have taken adequate means to exclude any possible sources of error. The children had been some time under observation and the increase was not due to constipation or to any increase in the amount of food administered. It is impossible to draw any definite conclusion as to the cause of this increase of weight from such a small number of cases. The observations are, however, of practical interest. The weight of new-born infants often fluctuates from day to day in a most surprising manner, yet the fact that an increase in weight unaccompanied by any definite improvement in the child's general condition is followed at times by a rapidly fatal result may be of value in certain cases in enabling a more accurate prognosis to be made. Further observations upon this subject are, however, required before its constancy or exact clinical value can be determined.

THE Harben Lectures of the Royal Institute of Public Health for 1898 by Sir Richard Thorne Thorne, K.C.B., M.B. Lond., F.R.S., commenced on Wednesday, Nov. 2nd, and will be continued on Nov. 9th, and 16th, at 5 P.M., in the Examination Hall of the Royal Colleges of Physicians and Surgeons, Victoria-embankment. The subject chosen is "The Administrative Control of Tuberculosis."

THE following figures reached us too late for insertion in the table giving the entries at the medical schools which we published last week. At Cambridge University 40 students have joined preliminary scientific classes with a view to graduating in medicine. At the London School of Dental Surgery, Leicester-square, 39 students have entered.

THE annual dinner of the Irish Medical Schools' and Graduates' Association will be held on Nov. 23rd at 7.15 at the Café Monico, as we have already announced. Members desirous of being present are requested to communicate with Mr. P. J. Freyer, 46, Harley-street, W.

THE Morison Lectures of the Royal College of Physicians of Edinburgh will be delivered in the College Hall, 9, Queen-street, by Dr. Alexander Morison, at 5 P.M., on Monday, Nov. 7th, Wednesday, Nov. 9th, and Friday, Nov. 11th.

THE annual dinner of the Aberdeen University Club will be held in the Venetian Saloon of the Holborn Restaurant on Wednesday, Nov. 16th, at 7 P.M., under the presidency of Lord Strathcona and Mount Royal.

IN the district of Iskander, in the Samarcand territory of Russia, there have been some cases of plague. The Russian Government are taking precautions against the spread of the disease.

THE Queen Regent of Spain has created Mr. Charles Lane Sansom, F.R.C.S. Edin., a Knight of the Order of Isabella.

A native officer, Tasildar Sundarasa Iyer, while on plague duty, has been stoned to death at Hindupur.

AN INTERNATIONAL MONUMENT TO HANS WILHELM MEYER.

THE inauguration of the monument to Wilhelm Meyer took place at Copenhagen on Oct. 25th, the birthday of the deceased, at 2 P.M. Among those present at the inauguration were the widow and other relatives of the late Dr. Meyer, the Mayor of Copenhagen, representatives of the Municipality and University of Copenhagen, the members of the Danish Committee, Sir Felix Semon from England, Dr. Edmund Meyer, the treasurer of the German Committee, from Berlin, the sculptor, Professor Bissen, and a large assembly, consisting chiefly of medical men and patients of the deceased. The ceremony commenced with the singing of a cantata by the Danish poet, Ernst von der Reck, which was sung by medical students. Sir Felix Semon, who had been requested by the Executive Committee of the Wilhelm Meyer Memorial to make the inaugural speech and to hand over the monument, erected by international subscriptions, to the care of the Municipality of Copenhagen, thereupon made the following speech:—

MR. MAYOR, LADIES, AND GENTLEMEN,—The Executive Committee of the Wilhelm Meyer Memorial have delegated to me the signal honour to hand over the monument, erected by international subscriptions to his honour, to the care of the Copenhagen municipality. In fulfilling this pleasing task I much regret my inability to address you in the Danish tongue, and for this reason alone I must not trespass long upon your patience. At the same time this occasion is such a very unusual one that I may be permitted to say a few words pointing out its meaning and importance. We are assembled here to-day to unveil a monument erected in honour of the late Dr. Hans Wilhelm Meyer. A monument in honour of a physician—that in itself is a very uncommon thing. To be immortalised by the sculptor's art in bronze or marble in a public place has usually been reserved from times of old to some few classes of the community only. Great rulers, benevolent or warrior princes, distinguished statesmen, victorious generals and admirals—these are the privileged mortals in honour of whom most frequently monuments have been erected; more rarely has such a reward fallen to the lot of great artists, poets, painters, musicians, and sculptors; still less frequently have men of science, philosophers, law-givers, inventors, and other leaders of intellect thus been distinguished; few and far between are monuments erected in honour of members of the medical profession. Nor is the reason of this far to seek. Slowly and by the labour of many is the edifice of scientific medicine being erected. The brain work of a lifetime of a physician usually means hardly a single brick in this ever-growing structure. Even if of uncommon importance his achievements rarely pass outside a comparatively narrow circle within his own profession; not often is his fame of a really universal character amongst his own compeers; still less frequently does it appeal to the imagination, to the gratitude of the community at large. Thus the ordinary fate of the scientific physician, even if in his day he has been successful in promoting by teaching and writing the welfare of mankind, as a rule is not of a largely resplendent character. A few complimentary obituary notices, the grateful recollection of some friends and pupils, not as a rule lasting longer than into the immediately following generation, finally a resting place for his name in those corners of medical literature in the development of which he has been most active,—this is the summary of the life-work of most leaders of the medical profession. What, then, has been the conspicuous merit of Hans Wilhelm Meyer that he should have been singled out for so unusual an honour as the one which is going to be paid to his memory to-day? The answer is easily given. It is now just thirty-one years since he was one day consulted by a girl, aged twenty years, who suffered from deafness, whose voice was most peculiar, and the expression of whose face was almost idiotic. Treatment directed to the ears and to the throat failed, and it was not until the puzzled observer one day introduced his finger into the space between the nose and throat that an unexpected solution was met with. Instead of penetrating into an open cavity the finger was arrested by a large, soft, easily bleeding mass, a condition the existence and nature of which in those days formed a *terra incognita*.

AN INTERNATIONAL MONUMENT TO HANS WILHELM MEYER.

The Monument to Hans Wilhelm Meyer, executed by Runeberg and Bissen, erected in Copenhagen by international subscription, and unveiled on Oct. 25th, 1898.

Meyer succeeded in removing this mass by operation, with the result that the deafness was materially improved, the voice became natural, and the idiotic expression of the face disappeared. Gratifying as this result was in itself it was, however, only then that Meyer's real merit commenced. Schopenhauer has truly said that not he is finder of a thing who lifts it from the ground and drops it again, but he who takes it up and recognising its value keeps it. If Meyer had regarded his experience in the light of a mere pathological curiosity, again years and years might have passed before the importance of the subject was realised. But with the true instinct of the scientific observer who develops what is ultimately to become an important truth from small beginnings Meyer did not drop the clue which a casual observation had placed in his hands. He began studying the subject in all its bearings; he examined the masses he had removed with regard to their structure, and finding them to be glandular in character gave them the name of "adenoid vegetations"; he investigated the results which obstruction of the space between the nose and throat exercises upon respiration hearing, articulation, facial expression, and general mental and bodily development; he examined 2000 Copenhagen schoolchildren with regard to the frequency of this affection; he made himself the apostle of his own teaching by proclaiming it, not only in his own country, but also in scientific publications abroad. In one word, to such an extent did he realise the true significance of his discovery that he left to his successors merely the addition of more or less important details, whilst the foundation of the edifice erected by him has remained unchanged from the time of his own first publication on the subject. Nevertheless it cannot be said that this teaching at first made very rapid headway. When in 1881 he introduced a discussion on the subject at the International Medical Congress of London it came almost—I well remember—as a novelty to many of his audience, although that was mainly composed of specialists, and it was only in the next decade that the true importance of the subject was realised throughout the world. It was at first not easy to convince the bulk of the medical profession, the parents of the mostly juvenile patients, and the schoolmasters that a discovery had been made which, like few others in medicine, was of the utmost practical importance concerning the development of a healthy mind in a healthy body of the rising generation, and it needed the irrefutable proof of the surprising improvement seen in the subjects of successful operations to make this conviction a universal one. But truth, though slowly, ever forces its onward way, and when Meyer three years ago closed his eyes he had the satisfaction of knowing that the value of his discovery had at last been universally recognised. Already then the number of those who through the timely removal of the obstructing glands had been saved from lifelong deafness or from the lasting results of obstructed nasal respiration amounted to many thousands, and the benefits achieved through Meyer's merits will continue to accrue in future times to hundreds of thousands and to millions. The proposition made immediately after his death to erect a statue to him at Copenhagen under these circumstances met with the most sympathetic reception; committees were formed in almost every country in which scientific medicine is established; in Great Britain the movement was particularly favoured by the patronage which Her Royal Highness the Princess of Wales, herself a daughter of the Royal Danish House, most graciously extended to it; physicians, surgeons, specialists, general practitioners, grateful patients, and former patients showed themselves anxious to contribute their mite towards a truly international monument of gratitude of his contemporaries towards the deceased great benefactor of the human race, and the result we see to-day before us in the shape of this beautiful and touching monument, which will carry the names of the artists, Messrs. Bissen and Runeberg, to every quarter of the globe. It is true that in the general chorus of approbation a few dissentient voices have been heard. "What, after all," it has been said, "has been Meyer's extraordinary merit? He put his finger up behind a patient's palate and found an obstruction, which he removed, and which turned out to occur more frequently than could at first have been supposed." Very true; but need I remind my audience that the same specious argument has been used against the claims of Christopher Columbus? America had been there all the time, only waiting, as it were, for the bold sailor who dared to go westwards until he struck a new continent. But Columbus did it. The naso-pharyngeal cavity had been there waiting for its explorer ever since man in his present shape has been in existence; pathological obstruction of this cavity has been as old as the records of the sculptor's art allow us to go back. In the last paper on the subject, which Meyer wrote a few months before his death, he showed that the facial expression of some Greek statues and busts which have come down to our times left no doubt that the originals had been suffering from "adenoid vegetations"; mediæval portraits of historical personages prove the same fact. Any physician might have conceived the idea of investigating the subject as Meyer did in 1868, but it was left to Meyer to do it, and having done so to realise the importance of his discovery whereby he became without exaggeration a true benefactor of the human race. That is why we are assembled here to-day; that is why we do honour to his memory. Gentlemen, the country of Denmark has been rich in producing men of eminence in almost all branches of human activity. If in many instances the nature of their distinction is better known to their own compatriots than to the world at large this is but natural and is an experience which is repeated in every country under the sun. There are some Danes, however, whose names are household words throughout the civilised world, whose reputation is not a local but a universal one, and who, whilst their countrymen may be justly proud of them, belong, as it were, to mankind at large. Need I mention the names of Tycho Brahe, of Bertel Thorwaldsen, of Hans Christian Oersted, of Hans Christian Andersen, and of Niels Gade? To those great names I think may be reverently added the name of Hans Wilhelm Meyer, one of the greatest benefactors to mankind medicine has known. Mr. Mayor, in the name of the subscribers to this monument, who have gladly contributed towards this external sign of gratitude erected in memory of your great compatriot, I have the honour to deliver the monument of Hans Wilhelm Meyer to the safe keeping of the municipality of Copenhagen.

Towards the end of Sir Felix Semon's speech the veil was withdrawn and the monument exposed to public view. It is considered one of the finest monuments in Copenhagen and loses nothing by its site, one of the new boulevards close to the Deaf and Dumb Asylum. The monument itself consists of a bronze bust of Hans Wilhelm Meyer on an oblong pedestal of polished brown granite with the following inscription:—

In front.	*On back.*
Laegen HANS WILHELM MEYER. * Fredericia, 25 Oktob., 1824. * Venetzia, 3 Juni, 1896.	Dette Mindesmaerke reistes i Aaret 1896 ved Bidrag fra Danmark og Udlandet. (This monument has been erected by contributions from Denmark and foreign countries.)

On the pedestal are written the names of those countries which have subscribed to the monument: "Australia, Austria, Batavia, Belgica, Britannia, Civitates fœderatæ Americanæ septentrionales, Dania, Gallia, Germania, Helvetia, Hispania, Hungaria, Italia, Norvegia, Polonia, Russia." The pedestal rests on several steps of roughly-hewn granite, mounting which is seen a most beautiful female figure (bronze), more than life-size, representing the Goddess of Medicine, who whilst she rests her left hand upon the staff of Æsculapius with her right offers the palm of glory to Dr. Meyer. The beautiful monument does full justice to the genius of the Finnish sculptor Runeberg, who made the bust of Meyer, and of the Danish sculptor Professor Bissen, who designed the female figure.

The MAYOR of COPENHAGEN thanked Sir Felix Semon in the following speech: Sir Felix Semon has just inaugurated and unveiled this monument and presented it to the municipality of Copenhagen. As a member of the municipality I have been commissioned to accept this beautiful monument, due to the united energies of the sculptors Runeberg and Bissen, which has been erected in honour of the renowned Danish physician, Dr. Hans Wilhelm Meyer. His great discovery on the subject of ear and throat disease has been generally acknowledged amongst his colleagues, not only in his own country, but, as we have just heard from Sir Felix Semon, perhaps even more so far beyond its boundaries, and the monument is a proof in itself. It may well be said that the proof of the value of a medical discovery lies in its practical use in curing disease, and in this respect Dr. Meyer's discovery has stood its ground, for the method he discovered and indicated has cured many people, or at any rate relieved their sufferings. Dr. Meyer's method has been followed and

perhaps improved upon by many medical men at home and abroad—several of the most prominent of these we have the honour to see here amongst us—and we hope that their energetic work may succeed in still further perfecting what Dr. Meyer had begun; but one thing I think is certain, that not only now but also in the far future laryngologists and otologists will look up to Dr. Meyer as the pioneer and their master in this question, the man with the clear brain who saw and explained the connexion of causalities. This place which the Danish Committee and the municipality have chosen is, we may also say, in a state of development, but in a short time it will be one of the finest parts of our city, so that the beautiful monument will be even better placed than at present. With these few words, in the name of the municipality of Copenhagen I accept this monument in memorial of Dr. Hans Wilhelm Meyer and promise to keep it and guard it.

Dr. E. SCHMIEGELOW, the President of the International Executive Committee, added his thanks to those of the Mayor and more especially expressed the gratitude felt by the committee towards the Danish and foreign subscribers. As chairman of the original Danish committee he assured Sir Felix Semon that his countrymen were fully alive to the great and unusual compliment paid by the entire world to Danish medical science, and, indeed, to the whole Danish people, in the person of so worthy a representative as Hans Wilhelm Meyer had been.

In the afternoon Dr. E. Schmiegelow gave a dinner to the foreign representatives, the members of the committee, and many of the leading men in Danish medical science; and amongst those present were the Mayor of Copenhagen and the sculptor, Professor Bissen. Letters and telegrams were received from the Dutch Oto-laryngological Society and the Medical Society of Amsterdam (Professor Guye, Dr. Voute, and Dr. Burger); Norway (Professor Uchermann); Belgium (Dr. Delie); England (Dr. Cresswell Baber); America (Dr. Bryson Delavan); and others.

THE NEW OPERATING THEATRE AT SWANSEA HOSPITAL.

SIR WILLIAM MAC CORMAC, President of the Royal College of Surgeons of England, visited Swansea on Oct. 28th for the double purpose of opening the new operating theatre at the hospital and delivering an address at the annual meeting of the Swansea Medical Society. A large company assembled at the hospital about 3 P.M. and were received by the Mayor, Mr. Aeron Thomas, who in a short speech welcomed Sir William Mac Cormac to the town. Mr. Howel Watkins, speaking on behalf of the board of management of the hospital, said that for the new theatre the town was indebted to the public spirit and generosity of Mr. Benjamin Evans, J.P., who had defrayed the expense of putting up an entirely new building for the purpose. Sir William Mac Cormac, having opened the theatre with a gold key presented to him by Mrs. Benjamin Evans, expressed his admiration of what Mr. Evans had done for the institution and made an allusion to the assistance which had been rendered by the energy and knowledge of his old friend and pupil, Mr. W. F. Brook, senior surgeon to the hospital. A vote of thanks to Mr. and Mrs. Evans for their munificence having been proposed by Sir John Llewelyn, M.P., and seconded by Mr. Ebenezer Davies, Mr. Evans replied in a genial speech, thanking Sir William Mac Cormac for being present, eulogising the hospital staff, and describing various recent improvements as an evidence of the progressive spirit of the town. Sir William Mac Cormac also read a paper on the Past and Future of Surgery before the Swansea Medical Society, and the same evening he was present at the society's annual banquet, on which occasion Dr. T. D. Griffiths presided, the other speakers including Chancellor Smith, General Sir James Hills-Johns, the Mayor, and Sir John Llewelyn, M.P.

The operating theatre is an annexe approached from the lower corridor of the hospital and is built of polled stone with dressings of Bath stone. The plan consists of two half-circles with a radius of 11 ft., separated by an interval of 4 ft., thus measuring 26 ft. by 22 ft. It is lighted from a dome-shaped roof 20 ft. high in the centre by two top-lights, one of which is continuous with the main side-light, a slab of plate glass 8 ft. wide extending to a level of 3 ft. from the floor. The walls are lined throughout with Parian cement, glazed with "Blundell's petrifying fluid." The floor is terrazzo and on either side of the north side-light is raised into two tiers of high steps, each step carrying an iron rail. Thus solid masonry takes the place of the wooden and iron stands usually provided for spectators. The theatre is heated by two sets of low-pressure steam radiators standing in recesses swinging on hinges and situated in front of four air inlets. The latter are provided with closely fitting metal boxes, with fronts and backs of wire gauze enclosing cotton wool, by filtering through which all air entering the theatre is cleared of dust. In the wall at a height of 14 ft. is an extracting fan driven by a jet of water $\frac{1}{16}$ in. in diameter capable of displacing 1000 cubic feet of air per minute and set in motion by turning a tap. A shallow recess in the wall with embedded glass shelves closed in by glass and enamelled iron doors forms the instrument cupboard. Immediately behind it is the flue of one of the anæsthetising rooms, the heat from which prevents condensation of moisture within the cupboard. The theatre is entered through either of two anæsthetising rooms, each 12 ft. by 10 ft., which are floored and lined in a similar way. The work was carried out by Messrs. Wilson and Moxham, architects, from designs prepared by the surgeons of the hospital.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A MEETING of the Comitia was held on Thursday, Oct. 27th, Sir SAMUEL WILKS, Bart., President, being in the chair.

The following gentlemen were admitted as Members: R. H. Crowley, M.D.Lond.; W. J. Fenton, M.B.Cantab.; and C. H. J. Lockyer, M.B. Lond. Licences were granted to 120 gentlemen who had passed the required examinations.

The PRESIDENT made some remarks in regard to his duties outside the College, drawing especial attention to the award of the Gilbert-Blane Prize for naval surgeons, the candidates for which had done much useful work; and to the position of the President as one of the trustees for the British Museum and the Tancred Scholarship. Sir Samuel Wilks also referred in glowing terms to the opening of the new medical laboratories at Liverpool. He considered that day to form the inauguration of a new system in medical teaching, the practical taking the place of the theoretical. He also announced that the Gilbert-Blane Prize had been awarded to Francis Clay, M.B., C.M. Edin., surgeon to H.M.S. *Thrush*, and to Percy Bassett Smith, M.B., C.M., staff-surgeon to H.M.S. *Magdala*. The Jenks Scholarship had been gained by Mr. William Hardy Fleetwood.

Communications were received, amongst others, from: 1. The Right Hon. A. J. Balfour and others, acknowledging the receipt of the declaration of the College respecting vaccination. 2. The Charity Commissioners, in reply to the College respecting a scheme for the maintenance of the Chelsea Physic Garden. A committee was appointed to consider the scheme, consisting of Dr. Hensley, Dr. Lauder Brunton, and Dr. Allchin. 3. The London County Council, asking the guidance of the college in the matter of the Notification of Infectious Puerperal Diseases. The following were nominated as a committee to consider the matter of nomenclature, with power to answer the letter:—Sir J. Williams, Dr. Payne, Dr. Champneys, Dr. Cullingworth, and Mr. Clayton. 4. The Society of Arts, respecting the award of the Swiney Prize to be made in January next. The President, Treasurer, Registrar, and Senior Censor, and Dr. Pavy were nominated as representatives of the College. 5. Mr. Trimmer, secretary of the Royal College of Surgeons of England, reporting certain proceedings of the Council of that body on August 2nd. 6. The Secretary of State for the Colonies, asking the present opinion of the College on the communicability of leprosy, in view of the report of the Berlin Conference (1897). The following were requested to act as a Committee to answer the communication: Sir Dyce Duckworth, Dr. R. Liveing, Dr. Heron, Dr. Payne, Dr. Head, and Dr. John Anderson. 7. The Seamen's Hospital Society, asking the College to nominate a representative on a committee appointed to organise a School of Tropical

Medicine in connexion with their branch hospital. Dr. Curnow explained that although Dr. Anderson and himself were physicians to the Seamen's Hospital at Greenwich they had not been consulted in the matter and, having detailed some of the correspondence which had taken place between himself and the secretary of the hospital, he moved "the previous question." Dr. Anderson having made a few remarks this was carried.

The audited accounts for the year ending Sept. 29th last were laid before the College. The quarterly report of the finance committee was received.

It was announced that the first award of the Bisset Hawkins Memorial would be made in July next and the medal would be presented on the St. Luke's Day following. A cast of the medal was handed round for the inspection of the Fellows.

Dr. Frederick Taylor was elected a member of the committee of management in place of Dr. Ord.

Reports were received from the committee of management and the laboratory committee, and Dr. Pye-Smith was re-elected a member of the latter.

After some further routine business the President dissolved the Comitia.

THE OUTBREAK OF PLAGUE IN VIENNA.

THE unfortunate Nurse Pecha died early on Sunday morning last from plague. She was a young, strong, healthy girl, and fought hard for her life, but eventually succumbed in spite of frequent injections of serum.

The disease has not spread at all thanks to the drastic precautionary measures which have been taken, and the city of Vienna, which last week was ripe for a panic, has now resumed its tranquillity. Nurse Hochegger, the other nurse who was ill, is pronounced out of danger.

The American Consul at Hamburg has received instructions that in consequence of the cases of plague in Vienna the American Government require 15 days' quarantine of all steerage passengers coming from that city, and already a large number of Austrian passengers have been prevented from joining one of the mail steamships.

Our Rome correspondent writes under date Nov. 1st: "Dr. Alessandro Lustig, who holds the chair of general pathology in the Florentine Istituto di Studi Superiori and directs the pathological laboratory in the same school, has just received from the Permanent Sanitary Commission of Vienna the cordial thanks of that body for his spontaneous offer of a supply of his *siero antipestifero*. The Commission adds that it will at once avail itself of the offer should the serum already furnished it from other quarters prove insufficient. At present it has on hand a supply from the Pasteur Institute of Paris."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6752 births and 3844 deaths were registered during the week ending Oct. 29th. The annual rate of mortality in these towns, which had declined in the seven preceding weeks from 24·6 to 18·8 per 1000, further fell last week to 17·9. In London the rate was 16·3 per 1000, while it averaged 18·9 in the thirty-two provincial towns. The lowest death-rates in these towns were 9·6 in Croydon, 12·7 in Huddersfield, 12·9 in West Ham, and 13·5 in Halifax; the highest rates were 23·5 in Manchester, 24·3 in Blackburn, 24·9 in Wolverhampton, and 26·6 in Liverpool. The 3844 deaths in these towns included 455 which were referred to the principal zymotic diseases, against 618 and 538 in the two preceding weeks; of these, 152 resulted from diarrhœa, 84 from "fever" (principally enteric), 82 from diphtheria, 65 from measles, 38 from scarlet fever, and 34 from whooping-cough. The lowest death-rates from these diseases were recorded in Huddersfield, Derby, Halifax, Bradford, and Oldham; and the highest rates in West Ham, Bolton, Salford, and Sunderland. The greatest mortality from measles occurred in Portsmouth, Liverpool, and Sunderland; from scarlet fever in Sunderland; from whooping-cough in Plymouth; from "fever" in Wolverhampton, Bolton, and Sunderland; and from diarrhœa in Blackburn, Bolton and Gateshead. The 82 deaths from diphtheria included 46 in London, 9 in Leeds, 7 in West Ham, and 5 in Swansea. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Oct. 29th, was 3024, against numbers increasing from 2178 to 2915 at the end of the nine preceding weeks; 335 new cases were admitted during the week, against 358, 357 and 381 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 263 in each of the two preceding weeks, were again 263 last week, and were 52 below the corrected average. The causes of 45, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Newcastle-upon-Tyne, and in fourteen other smaller towns; the largest proportions of uncertified deaths were registered in Blackburn, Preston, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·7 and 19·0 per 1000 in the two preceding weeks, rose again to 20·0 during the week ending Oct. 29th, and exceeded by 2·1 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·7 in Leith and 18·5 in Edinburgh to 25·3 in Dundee, and 27·2 in Perth. The 603 deaths in these towns included 36 which were referred to diarrhœa, 15 to "fever" (principally enteric), 8 to diphtheria, 6 to whooping-cough, 4 to scarlet fever, and 4 to measles. In all, 73 deaths resulted from these principal zymotic diseases, against 105 and 86 in the two preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The 36 fatal cases of diarrhœa showed a further decline from the numbers recorded in recent weeks, and included 9 in Glasgow and 8 in Dundee. The deaths referred to different forms of "fever," which had declined from 14 to 9 in the three preceding weeks, rose again to 15 last week, of which 10 occurred in Glasgow and 2 in Aberdeen. The fatal cases of diphtheria, which had been 8 and 6 in the two preceding weeks, rose again to 8 last week, of which 2 were registered in Glasgow, 2 in Dundee, and 2 in Aberdeen. The 6 deaths from whooping-cough showed a marked decline from recent weekly numbers, and included 2 in Glasgow and 2 in Aberdeen. The 4 fatal cases of scarlet fever were recorded in Glasgow, where 3 of the 4 deaths from measles were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 141 and 120 in the two preceding weeks, were 119 last week, and were 18 below the number in the corresponding week of last year. The causes of 38, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 22·1 to 26·0 per 1000, further rose to 26·4 during the week ending Oct. 29th. During the past four weeks the rate of mortality in the city has averaged 25·1 per 1000, the rate during the same period being 17·7 in London and 19·1 in Edinburgh. The 177 deaths registered in Dublin during the week under notice showed a slight increase upon the number in the preceding week, and included 13 which were referred to the principal zymotic diseases, against 18 and 20 in the two preceding weeks; of these, 4 resulted from diarrhœa, 4 from "fever," 3 from diphtheria, 1 from scarlet fever, 1 from whooping-cough, and not one either from small-pox or measles. These 13 deaths were equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 1·7 in London and 1·1 in Edinburgh. The 4 fatal cases of diarrhœa showed a further decline from those recorded in recent weeks. The deaths referred to different forms of "fever," which had increased from 2 to 4 in the three preceding weeks, were again 4 last week. The 3 fatal

cases of diphtheria exceeded the number recorded in any week since May last, while the mortality from whooping-cough showed a marked decline. The 177 deaths in Dublin last week included 38 of infants under one year of age, and 49 of persons aged upwards of sixty years; the deaths of infants showed a further decline, while those of elderly persons exceeded the number recorded in any recent week. Ten inquest cases and 5 deaths from violence were registered; and 62, or more than a third, of the deaths occurred in public institutions. The causes of 13, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF-SURGEON JOHN LEONARD AHERNE, has been allowed to withdraw from Her Majesty's Naval Service with a gratuity.

The following appointments are notified:—Staff Surgeons: J. Sugrue to the *Devastation*, and H. W. G. Doyne to the *Collingwood*. Surgeons: E. Cooper to the *Buzzard*; E. D. J. O'Malley to the *Jaseur*; J. Shand to the *Brisk*; D'Arcy Harvey to the *Excellent*; W. R. Trythall to the *Daphne*, undated; E. B. Pickthorn to the *Centurion*; and L. E. Dartnell to the *Tamar*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Robert H. Robinson is placed on retired pay. Lieutenant-Colonels John Stevenson and Alexander S. W. Young retire on retired pay. Lieutenant O'Gorman is posted to the Dublin District for duty. Captain Way will be held in readiness for service in South Africa. Lieutenant-Colonel Hughes has arrived at Canterbury for duty. Major H. N. Thompson has arrived at the Station Hospital, Hounslow, for temporary duty.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following promotions among the officers of the Indian Medical Service made by the Government of India:—To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel David Sinclair, Madras Establishment. Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels: *Madras Establishment:* Henry FitzLawrence Plunkett French Esmonde-White, William Richard Browne, Arthur Henry Leapingwell, Hazlett Allison, and Thomas James Hackett Wilkins. *Bombay Establishment:* John Philip Greany. Surgeon-Lieutenants to be Surgeon-Captains: *Bengal Establishment:* John Stephenson, Frank Needham Windsor, Walter Barrie Turnbull, Ernest Edwin Waters, Asher Leventon, and Philip Francis Chapman. *Madras Establishment:* Frederick Linton Blenkinsop, Edmund Moritz Illington, Thomas Edgar Watson, and Charles George Webster. *Bombay Establishment:* Alfred Hooton, Arthur Frederick William King, Robert Frazer Standage, Andrew Armstrong Gibbs, and Henry Alfred Forbes Knapton. The Queen has also approved of the retirement from the Service of the under-mentioned officers: Surgeon-General James Cleghorn, Bengal Establishment, and Lieutenant-Colonel James Joseph Moran, Madras Establishment. The Queen has also approved of the resignation of the Service by the under-mentioned officer: Captain William Carr Sprague, Bombay Establishment.—*London Gazette.*

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain H. G. Thompson, to be Surgeon-Major. Surgeon-Lieutenant Edmond U. F. MacW. Bourke, 18th Middlesex Volunteer Rifle Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Rifle: 18th Middlesex: Surgeon-Lieutenant C. Godson to be Surgeon-Captain.

THE TITLES OF RETIRED ARMY MEDICAL OFFICERS.

The Royal Warrant recently issued with reference to the Royal Army Medical Corps, while giving satisfaction to officers on the active list does not relieve retired but employed members of the Army Medical Service from designation by cumbrous and inconvenient titles such as Brigade-Surgeon-Lieutenant-Colonel. It should not be a difficult matter for the authorities to confer upon these officers the same titles as those now granted to the R.A.M.C., and Lord Lansdowne would earn the gratitude of the retired as he has done of the active medical members of the Army by such a concession.

ARMY MEDICAL SCHOOL, NETLEY.

The following is an additional list of surgeons on probation nominated for the R.A.M.C.: J. M. Sloan, Glasgow University; W. W. Scarlett, School of Surgery, Royal College of Surgeons, Ireland; D. S. Harvey, Glasgow University; G. C. Phipps, Owens College, Manchester; and F. J. Brankenridge, St. Thomas's Hospital.

OOTACAMUND.

This well-known hill station of Madras has of late had the reputation of being exceptionally unhealthy and the Madras Government directed their Sanitary Commissioner, Colonel Thomson, I.M.S., to proceed to Ootacamund to investigate and report thereon. This has accordingly been done.

Professor A. E. Wright, M.D. Dub., Professor of Pathology in the Army Medical School, Netley, has been selected to proceed to India at once as a member of the new Commission appointed to study the spread of the plague. During his absence Major D. Semple will act as Professor of Pathology in the Army Medical School. Major C. Birt, R.A.M.C., is to succeed Major Semple as Assistant Professor of Pathology, while Captain G. Lamb, of the Indian Medical Service, has been appointed for one year as an Extra Assistant in the Pathological Laboratory of the Army Medical School.

Correspondence.

"Audi alteram partem."

"THE LANCET ANALYTICAL COMMISSION ON SHERRY: ITS PRODUCTION, COMPOSITION, AND CHARACTER."

To the Editors of THE LANCET.

SIRS,—I have read your most interesting article on Sherry. A similar description and analysis of Australian brandy which you issued some years ago has been the means of furnishing the profession with a genuine and good article. The need of pure, unadulterated wines and spirits is greatly felt by all who have to prescribe for gouty, dyspeptic, and "livery" subjects. You would add very much to the value of your work on sherry if you would trace the wine from its importation at our docks to its arrival on our tables. Is it adulterated by the British wine-merchant? I have at times questioned several friends "in the trade" on this point. They all assured me that the "blending" of sherry is essential and universal. The blending consists of adding water, spirits, curaçoa, burnt sugar, &c., and variously mixing different casks of sherry, so they told me. The British public will not drink it in its pure state, but demand this adulteration and alteration. I have some natural sherry that I get at the stores, discovered after hunting for it for some time. Being a dyspeptic I can drink very little wine, but this agrees with me and I like it. It is a light wine, dry, free from burning taste, and fruity in flavour. But I find that the ordinary guest at my table does not like it—the man, that is, who rather fancies himself as a connoisseur in wines; so that my friends the wine-merchants, who told me the British public will not drink "natural sherry," I now find are about right. How many people one meets say they cannot drink sherry. It would be a great advantage if some sherry importers would guarantee to sell nothing but the pure wine as imported; we could then recommend it with confidence to those who are poisoned by the usual stuff.

I am, Sirs, yours faithfully,

H. HOWARD MURPHY, M.D. Cantab.

East Twickenham, Oct. 29th, 1898.

"MEMBRANOUS RHINITIS AND ITS RELATION TO DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—May I be allowed to correct the figures given in your report in THE LANCET of Oct. 29th of my remarks in the discussion following Dr. Lack's very interesting

paper on Membranous Rhinitis and its relation to Diphtheria, read at the Royal Medical and Chirurgical Society on Oct. 25th? Doubtless I failed to make them sufficiently clear, but as they may be published in another place, I would like to have an opportunity of preventing any apparent discrepancy between their final appearance and that which they present in your report. I examined 125 children. Of these 69 had nasal discharges of varying quality and 56 were free from discharge. Of the former 37, and of the latter 24, presented the Klebs-Löffler bacillus; 5 cases where the discharge was more or less blood-streaked gave the bacillus in every case. None of the discharges were associated with constitutional symptoms not otherwise to be accounted for; all were of a markedly chronic character, and several of the children on the surgical side were apparently in good health, being admitted for accident or deformities. Trusting you will find space for this statement, I am, Sirs, yours faithfully,

THOS. D. LISTER,
Pathologist, East London Hospital for Children.

Wimpole-street, W., Oct. 28th, 1898.

THE WATER-SUPPLY OF LEICESTER.

To the Editors of THE LANCET.

SIRS,—As one who is interested in water-supplies in general and the question of the causation of endemic goitre in particular allow me to say a few words on this matter. The question of the Leicester water-supply seems to me one for very serious consideration. The upper reaches of the Derwent derive their water, at any rate in part, from well-known goitre-stricken geological horizons, the lower carboniferous limestone and Yoredale series of the carboniferous formation. The most goitrigenous water in my experience is that which remains quietly in contact with the soil (in affected localities), such as is the case with well water. It is found that when water originally goitrigenous flows away from its source, especially if exposed to the oxidising agencies of oxygen or light, it quickly loses its poisonous properties. Now will this be the case with the water of the Upper Derwent Valley and will the conveyance by pipes render the water innocuous on its arrival at Leicester? Personally I think that even in this latter case the water will lose the greater part of its poisonous properties, though I doubt if all will be eradicated. Most certainly also should the water be subjected to thorough filtration, another agency found to be efficacious in diminishing the amount of the goitrous poison. Another element of danger, it seems to me, in this Leicester case is that natural reservoirs are to be formed, so far as I can ascertain, and these in a goitrous locality. As to the question of the causation of the malady I think it quite time that the ancient theories of lime and magnesia were relegated to some museum of antiquities. On two formations in this country, largely goitre-stricken, hardly any lime or magnesian salts exist—viz., the Ordovician shales and the Volcanic Series of Borrowdale. The cause of the malady is rather to be sought in the agency either of soil-bacteria (or possibly hæmatozoa having a soil origin), or, secondly, of metallic salts, especially the sulphides of iron or copper (or rather the results of their decomposition). With regard to soil-bacteria certain chemical factors in the soil favour their growth no doubt, and this may account for the presence of goitre in particular localities. With regard to the goitre-producing faculties of decomposing iron and copper pyrites the evidence in their favour is very convincing. For example, in the lower carboniferous limestone, and Yoredale series I have found abundance of iron pyrites occurring as marcasite. Ordovician shales contain a large amount of cubical iron pyrites and marcasite. The English chalk formation, according to Berry, has goitre fairly evenly distributed though not to any extent (if lime salts caused goitre we should expect a large amount of goitre on this formation). Now with the exception of disseminated lime phosphate and glauconite I am unaware of any mineral in this formation except marcasite, which I may mention is a very readily decomposed form of iron sulphide. The gault clays of England are goitrigenous and their blue colour is due to disseminated iron pyrites. On the corresponding formation in France (*marnes aptiennes*) Saint Lager found an abundance of goitre with a corresponding abundance of the mineral in question. Many other instances could be adduced in favour of this theory and adverse to the lime and magnesian salts theory, but I think I have said enough to draw attention to this fascinating subject, as I consider too little attention has been directed in this country to a disease which has such a baneful influence on the health and intelligence of the affected localities.

I am, Sirs, yours faithfully,

LOUIS E. STEVENSON.

Temple Sowerby, Penrith, Oct. 28th, 1898.

"WHAT IS 'FIRST AID'?"

To the Editors of THE LANCET.

SIRS,—Dr. Clayton Jones brings out in his letter some other points in the teaching of "first aid" which also require considerable reform and I am glad to find that he agrees with me in desiring a more definite course and a more practical scheme of instruction. He has "not much faith in representative committees and ..... would rather see an able man appointed who should write a new text-book." I am not fond of such committees either, but it is not of much use that "an able man" should write a new text-book without some previous assurance that it would be accepted as the recognised manual and that the present state of things would not continue. Again, who is to appoint him? Instruction in "first aid," although largely in the hands of the ambulance department of the Order of St. John of Jerusalem, is not entirely so, and what is wanted is complete and definite agreement among the various authorities as to the scope of the subject and the method of teaching. Provided, however, the end is attained I do not much care whether it is by committees or otherwise, but I feel sure that reform of the kind indicated by the correspondence in your columns would be welcomed by all really interested in the proper teaching of "first aid."

I am, Sirs, yours faithfully,

Suffolk-street, S.W., Oct. 29th, 1898. VALENTINE MATTHEWS.

THE PLAGUE IN INDIA.

To the Editors of THE LANCET.

SIRS,—Your otherwise fair leading article in THE LANCET of Oct. 22nd on "The Indian Government and the Plague" contains some sentences from which it would appear that the natives of India are hostile to the *legitimate* steps which have been taken to stamp out the plague. That is a chimera which is affectionately hugged by a large majority of the British public. You quote the words of the Indian Government, "To attempt by force to eradicate a disease when the entire population exerts itself to oppose the methods adopted is an effort doomed to failure." In what way does the "entire population exert itself to oppose the methods adopted"? It is not the necessary steps to which they object, for disinfection, though not always with the modern therapeutic agent, is practised night and morning in every Indian household. Isolation is an ancient custom among the small-pox ridden people of India and inoculation as a science was practised in the East from time immemorial and, indeed, spread from the East to the West. So that in principle there is nothing which is being done which can be called an innovation. What they really object to (and what self-respecting nation would not?) is the arbitrary and high-handed manner in which the orders of the Government are executed. I do not say that it was the intention of the Government that its officers should ride roughshod over the people, far from it. But it is a notorious fact that the feelings of the people were grievously trampled upon; it may be from ignorance of Indian customs and manners. The Government cannot be altogether guiltless when it rejected the counsels and coöperation of the natives of the country and imprisoned without trial (a privilege given the meanest of Her Majesty's subjects in England) two highly born leaders of the people for sounding the warning note against some of the unpopular plague measures which had to be cancelled afterwards, but not till a serious riot had opened the eyes of the Government. By appointing a committee of investigation at the tail end of the outbreak the Government earns for itself the compliment of "being better late than never." As regards M. Haffkine's system of inoculation it seem to me that there is much ado about next to nothing. Whatever may be

proved in the future as regards the value or efficacy of his system, certainly the medical profession "do not yet know enough," as you rightly say, "to decide positively whether it is efficacious and if so how long the immunity conferred by it lasts, or whether it is a practicable scheme to apply in India with its teeming millions."

The English people have misunderstood the attitude of the Indians towards measures which, after all, have not yet passed the experimental stage. Even in England, where popular education is supposed to have done wonders, we see the ridiculous sight of the repeal of the vaccination laws, which have been acknowledged by all, except a handful of fanatics, to have stemmed the tide of small-pox. If such a thing can happen here much that has actually, and said to have, occurred in India can be easily explained and pardoned.—I am, Sirs, yours faithfully,

SARAT K. MULLICK,

National Hospital for Heart and Paralysis, Soho-square, W. Oct. 29th, 1898.

"MEDICAL FEES FOR LIFE INSURANCE EXAMINATIONS."

To the Editors of THE LANCET.

SIRS,—With reference to the letter from Mr. Paulin in THE LANCET of Oct. 29th I am glad to note that the invaluable services rendered by medical men in life insurance cases are becoming well recognised. These services are indispensable. On the honour and skill of the medical examiner depend the benefits the public derive from life assurance. This office has for some considerable time paid two guineas for £2000 cases, but my appreciation of the assistance rendered by medical men is such that I am about to propose to my directors that in future we pay an extra guinea for each £1000 above that amount. Though in all cases the examination should be equally thorough, still the responsibility which doubtless the physician feels in examining for large amounts should, in my opinion, be recognised.—I am, Sirs, yours faithfully,

HENRY R. POPE, Secretary.

The Absolute Life Assurance Company, Limited, 87, St. James'-street, Pall Mall, S.W., Oct. 29th, 1898.

"VITALITY."

To the Editors of THE LANCET.

SIRS,—Dr. Beale seems in his last letter to be just a little impatient because your correspondents have in their discussions confined themselves chiefly to the philosophical aspect of the question of vitality. The importance of this phase of the subject to the general practitioner will be more easily realised by Dr. Beale when he considers how little time the busy practitioner can afford for the prosecution of microscopical research involving laborious minuteness and lengthy sittings and that he, not having the opportunity of attacking such problems experimentally with the resources of a laboratory, does what is next best—reflects and philosophises. The statement that the philosophical side of the subject has to be studied and discussed in order to provide a harmonious whole of that which in honour of its chief exponent one may term *Bealeology*, needs no elaboration of reasons; the city doctor and the country practitioner will the more readily accept Dr. Beale's conclusion—drawn from an immense amount of microscopical study—if reasonable theories can be formulated as to the origin, the means of existence, and the "death" of vitality.

The question of the origin of vitality interests me as it does Dr. Hooper; if vitality be not a form of matter or motion where did it spring from? How did it reach the earth? It is generally admitted that the earth, a combination of matter and motion, is derived from the sun. It must at first, then, have gone through a long period of cooling and life could only have begun to exist in the fashion we now see it when the earth reached a certain degree of temperature and presented other favourable manifestations of motion, such as a non-injurious state of electrical environment, suitable atmospheric conditions, and proper juxtaposition of the constituents of primeval bioplasm. Given the presence, then, of these conditions, from what sources did vitality arise and by what way did it arrive? The question of its source and means of reaching the constituents of bioplasm is intimately bound up with our conception of its mode of action on antebiotic material and its manner of becoming latent and conserved when bioplasm dies. (Whether one takes Dr. Beale's view of life or the mechanico-chemical theory one feels bound to accept indestructibility as an attribute of it.)

Is vital power derived from the sun just as motion is, and was it latent until conditions arose when it could blossom forth? Or is this subtle influence transmitted (possibly by vibrationary means) through the intra-astral medium from some extra-solar quickening centre? (How near does this bring us to the conception of a life-giving Almighty.) Vitality must have originated in either of these ways or else must be considered a manifestation of motion—having distinct and peculiar properties it is true—and classified amongst the forces of the natural sciences that are so interdependent on each other and without the aid of which vitality can show no results.

I am, Sirs, yours faithfully,

Cowling, Yorkshire, Nov. 1st, 1898. JOSEPH H. ROWE.

A RARE DISLOCATION.

To the Editors of THE LANCET.

SIRS,—On Oct. 28th I was called to see a woman who had been attended by a midwife in her confinement fourteen days previously, but a lump being observed in the infant's neck she had been advised to have a medical man to see it. I found the child small in size but in fair condition. It naturally turned on its left side, twisting its face downwards towards the left shoulder. Examination showed dislocation of the sternal end of the right clavicle, the bone being drawn upwards and slightly outwards by the sterno-mastoid as far as the subclavian, which retained the outer half in its place. This was a breech presentation, and the mother stated that the midwife had had great trouble with the after-coming head. I cannot find this cause mentioned in the text-books and thought it might interest some of your readers.

I remain, Sirs, yours faithfully,

Bournemouth, Oct. 31st, 1898. A. J. TURNER, M.D.

"DR. SAUNDBY'S ADDRESS."

To the Editors of THE LANCET.

SIRS,—Dr. Saundby, in his address to the students at Cardiff, admits that our country is saturated with the commercial spirit and that students, professors, and governing bodies are all alike too apt to consider what will pay them best. Some time since your Commissioner had occasion in the interests of the profession to visit Birmingham, and in the first instalment of an excellent report published in THE LANCET he brought a charge of commercialism against the whole community. This did not please the President of the Council of the British Medical Association, and when your Commissioner afterwards called upon Dr. Saundby he was told curtly to mind his own business. What is the difference, we may ask, between the term "commercialism" as used by your Commissioner and the phrase "saturated with the commercial spirit" as employed by Dr. Saundby?

Dr. Saundby pleads for the establishment of eight additional universities in England alone. These, we gather, would cost £16,000,000 and would require for their maintenance the sum of £400,000 per annum. Dr. Saundby speaks of millions sterling as glibly as any company promoter, but when the decaying medical school of Birmingham has been replaced by an up-to-date and model university is it probable that Dr. Saundby will trouble himself further with the £14,000,000 which would still be required to found similar and consequently rival universities in Manchester, Liverpool, Leeds, Newcastle, Bristol, Nottingham, Norwich, or that other city not specified? I hardly think so. Dr. Saundby at first allows that "there may be professions in which the work is better paid and less exacting," but later he expresses the somewhat contradictory opinion that "there is no profession in which success more certainly attends attention to business or in which so good an income can be as readily secured." If the latter statement be true I can only say that the condition of the other professions must be deplorable indeed. Mr. Lawson Tait has spoken regretfully of the mean dwellings now occupied by so many medical men of good character and recognised ability in the city of Birmingham, and judging from the rents paid, as indicated by Mr. Tait, such dwellings certainly could be fittingly

occupied only by humble individuals of the working class. From a leading article on the "Sixpenny Doctor" in the most widely read of Birmingham newspapers I cull the following: "The simple fact is, and there is no good purpose to be served by disguising it, that the medical profession in common with others is overcrowded. Of late years there has been an increase in the number of medical colleges and the cost of an ordinary medical education has been decreased. ..... How the medical bodies are to prevent the excessive rush into the profession we do not quite see unless they can persuade the universities and medical colleges to raise their standards and their fees and so diminish the number of entrants. When a man has once qualified he naturally and properly expects to live by his profession. He takes guineas if he can get them, if not he accepts half-crowns, and if even these become too scarce he swells the ranks of the sixpenny doctor." The following extract from a professional journal has been widely circulated in the public press: "Now we speak but plain and sober truth when we say that competition in medical practice at the present time is excessive and ruinous; and this is true of all ranks in the profession. ..... We feel and know that the vast majority of doctors in full practice have to reckon with a diminishing instead of an increasing income year by year; that old men are steadily elbowed out, and not having been able to save any money at all in early life they are often driven to starvation, whilst young men coming in and endeavouring to establish themselves quite justifiably in practice against their older rivals are often compelled to resort to methods which are nothing less than degrading. The following is a generalisation from twenty years' practice in London. Of every six men who take a house and put up a door-plate without buying a practice, five are compelled to leave the house within two years. They leave with their little capital expended and with despairing hearts to renew the struggle elsewhere."

Dr. Saundby says further: "Our position depends mainly on the public belief that we are a disinterested profession, and that belief rests upon the vast amount of public work we do for nothing." What is the nature of the work to which Dr. Saundby refers? We do work for nothing when, from disinterested motives, we give our services freely without thought of fee or reward, and we also do work for nothing when in the ordinary course we give our services in anticipation of payment which in the end is not forthcoming. Our good deeds and our bad debts represent a vast amount of work no doubt, but such work is not paraded in full view of an admiring public. It is true that the hospital physicians and surgeons of Birmingham alone do a vast amount of work without remuneration, but surely they have their reward. Is not the gratuitous advertisement inseparable from such appointments worth infinitely more to the man who knows how to make the most of his opportunities than the full value of the work which he does for nothing? If Dr. Saundby had said: "In Birmingham there is no profession in which success more certainly attends attention to business, or in which so good an income can be as readily secured provided you have a hospital appointment," one statement at least in the elaborate address would have been undeniably true.

I am, Sirs, yours faithfully,

J. RITCHIE DALRYMPLE.

Yetholm, N.B. Oct. 15th, 1898.

"THE PHYSIQUE OF BOYS ENTERING PUBLIC SCHOOLS."

To the Editors of THE LANCET.

SIRS,—It is incumbent on me, in consideration of your kindly and courteous notice of my letter to the *Times*, giving the result of the physical examination of 100 boys as they entered a public school, taken consecutively and unselected, to amplify my letter by furnishing you with the further particulars you indicate as of value. With reference to the deformities, it seems to me to be possible that the examiner might have been a little over severe had he been preparing the results of his examination for publication, but when this was a mere after thought and the examination was solely for the purpose of regulating the physical exercises and games of each boy it seems scarcely possible. I had known for many years that these deformities were considerable and that they were mainly the result of negligence in the process of education, but I was myself astounded at the facts revealed by the examination when I came to total them. The cardiac cases were mitral disease and the hernias were congenital.

You suggest that a medical account of the antecedents of the cases of albuminuria would throw a flood of light on the pathology of the so-called functional albuminuria. I am fortunately able to accede to your appeal, having by my side a complete previous medical history of every boy. I fear, however, it will not prove of value in its elucidation. I have little doubt in my own mind that this form of albuminuria in boys, like chilblains, is dependent upon the condition or action of the vaso-motor nervous system. Else how is it that in the worst cases where the urine boils as white as milk the albuminuria disappears as soon as the boy is placed in the horizontal position, in which position he can be fed as heartily as is pleased, and it never appears unless he is very constipated? While in the vertical position, if it is to be kept away he can partake of nothing but milk, which even "crammers" know who send candidates up for the medical examinations of the public services. How is it, further, that these albuminurics can join in all vigorous school games, apparently without harm, and yet faint soon after rising in the morning, especially if they are compelled to stand? When these boys thus faint, or even feel faint, the first thing I do is to examine the urine. I can now diagnose these cases of albuminuria from their appearance, from a finger on the pulse, or my hand on the heart.

The Previous Medical History of 22 Boys suffering from Albuminuria between the Ages of Thirteen and Fifteen Years.

Name of disease.	Number of cases.	Name of disease.	Number of cases.
Chicken-pox	19	Acute nephritis	1
Whooping-cough	19	Pleurisy	1
English measles	17	Pleuro-pneumonia	1
German measles	7	Bronchitis	1
Mumps	7	Rheumatism	1
Scarlet fever	4	Laryngitis	1
Influenza (?)	2	Burmah malaria	1
Diphtheria	2	Hay fever	1
Headaches	2	Catarrhal jaundice	1

I admit that the record of the height, weight, and chest-girth are only of personal value to the master, to whom they are handed for his guidance in the management of the boy and to whom they are of untold value, for, taken periodically, they indicate as nothing else can when wrong is being done to the child in the process of education.

As these public school boys are a "special class," well-bred, well-fed, and reared for the most part in the country, I thought it only fair to employ the averages of the special class tables of Dr. Charles Roberts, as if such a very specialised class is compared with the artisan class reared in towns there is a very marked difference. For instance, the following shows the average height and weight of the artisan class—town population:—Age, 14 years; average height without shoes, 57·76 in.; average weight, including 9 lb. of clothes, 84·61 lb. The following also shows the average height and weight of the most favoured classes of the English population—public school boys, naval and military cadets, &c.:—Age, 14 years; average height without shoes, 61·11 in.; average weight, including clothes of 9 lb., 99·2 lb.

It seems to me, therefore, that it would be very misleading to take an average of all classes in estimating the average height and weight of such a very favoured class as public school boys. I am aware that the record of the physical examination of only 100 boys is scientifically of not much value, though I thought they were of untold value to the public as eye-openers for the coming generation. I am now preparing tables for a much more minute record, and when I have the physical examination of 1000 scheduled I will publish it. If I do not live to tell the tale my successor will find it in such order that he will have no difficulty in doing it for me. For obvious reasons I still withhold my name and sign myself,

Your obedient servant,

Oct. 31st, 1898. M.D.

A NURSES' HOME is to be erected in connexion with the Brompton Hospital for Consumption and Diseases of the Chest, the estimated cost of which is over £30,000.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manufacturers and River Pollution.

THE decision given in the Queen's Bench Divisional Court on the 27th ult. by the Lord Chief Justice and Mr. Justice Wills, however correct in law, is of evil omen as regards the purification of rivers. Two cases had been decided by the county-court judge against the River Ribble Committee, which had prosecuted two defendants for alleged pollution of the River Darwen by running solid putrid matter into the stream. The defendants were millowners on the river and had impounded the water in reservoirs, allowing it after a time to flow out again into the river through sluices, one of them merely opening the sluices and allowing the water and deposited matter to flow out as it would, while the other employed men to rake up the bottom of his reservoirs so that mud and all should run into the river. This was not held to make any material difference in the cases. No solid matter was put in by the defendants, but higher up the stream are paper-makers, who use esparto grass largely and are really responsible for the solid matter flowing from the river into the defendants' reservoirs. After being impounded for a time the matter in the water becomes putrid and is then turned into the river, causing a great public nuisance. Lord Russell said one question was, Did the defendants put into, or allow to be put into, the River Darwen putrid solid matter? As the analysis showed that the effluent where it entered the river from the reservoir gave only 2·4 parts of solid matter the judges held that it could not be said that the water in the river was polluted by putrid solid matter. What there was was put in by the paper-makers higher up and it would be hard for the defendants to be punished for the acts of others. The judges decided that no offence had been committed by the defendants under Section 2 of the Rivers Pollution Act of 1876 and that the summons should be dismissed under Section 17, which allows of impounding of water. It is allowable, therefore, to impound water, knowing it to contain putrescible matter, to keep it till a fine putrescent odour is obtained, and then to turn it into a river where it is abominably offensive for the delectation of the unfortunates lower down. The mud at the bottom of the reservoirs, if shovelled by spadefuls into the river, would no doubt be considered a solid, but according to this decision it seems that all one has to do is to stir up the filth and diffuse it through the body of the water in the reservoirs and then run it off. Is there no way of dealing with the paper-makers? The waste matter of the esparto grass would be a useful manure and it ought not to be very difficult to recover it.

The Training of the Feeble-minded.

A meeting was held in Manchester on the 26th ult. to form a society for promoting the welfare of the feeble-minded. The Dean of Manchester presided and said he should have hesitated before taking part in any new movement in Manchester amongst so many philanthropic enterprises which were carried on in the city had it not been for the necessity of the case. From an inquiry made under the auspices of the school board—of which the Dean is chairman—it appears that of 39,600 board school children 525 seemed more or less incapable of holding their own in the ordinary classes. Dr. Ashby was requested to see these children and he found that there were 214 "dull and backward," 276 "mentally feeble," 4 "deaf-mutes," and 6 not sufficiently behindhand to need special attention. The school board are about to erect buildings both in the north and south of Manchester as special schools for these children, but, as the Dean said, "the children who might leave the schools of the board needed further guidance." He moved a resolution—"That it is desirable to form a North of England society for the promotion of the welfare of the feeble-minded." This was seconded by Miss Dendy, a former member of the school board, who may be said to have been the active spirit in this movement. She said they wanted £20,000, which Manchester could easily provide. "The price of a dinner party, of a ball dress, of a Saturday's football match, and the thing was done." By what process of mental arithmetic this estimate was arrived at is not known, but a very small amount of self-denial widely distributed would soon suffice. Dr. Ashby, in supporting the resolution, emphasised the fact that other means than those provided by the school boards and the guardians of the poor were needed for dealing with feeble-minded children. The Duchess of Sutherland, as President of the National Society for Promoting the Welfare of the Feeble-minded, spoke strongly in favour of the object of the meeting. Sir Wm. Houldsworth moved the appointment of a committee with the Dean of Manchester as president of the society. He said that apart from Christian duty an important argument in favour of the work it was proposed to do "was the national argument of preventing the propagation of the present state of things to future generations."

Typhoid Fever at Stockport.

Dr. Porter, medical officer of health for Stockport, reports the prevalence of typhoid fever. He states that of 20 cases under notice 15 are, in his opinion, the result of soil and air pollution and, as he has repeatedly pointed out, "so long as such conditions continue just so long will very hot summers be, with almost absolute certainty, followed by a corresponding severe incidence of typhoid fever."

Cotton Districts Convalescent Fund.

The meetings of the governors of the above fund always bring back the remembrance of the hard days of the cotton famine, and the residue of the fund subscribed for the relief of the operatives is still the means of giving invaluable help to many poor convalescents. At the meeting on Oct. 24th the report stated that during the nine months ending Sept. 30th, 1898, 2295 patients had been sent to the convalescent hospitals at Southport, Buxton, and Cheadle, at a cost of £3592.

Infectious Diseases Hospital for Oldham.

The new infectious diseases hospital for Oldham was opened on the 26th ult. by the Mayor of the borough, Alderman Waddington. The old temporary structures have been swept away and replaced by a permanent building, the whole establishment being surrounded by a wall about half a mile in length. The wards will accommodate nearly 100 patients and in times of epidemic the accommodation can easily be increased.

Nov. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Aberdeen Hospital for Sick Children.

ON Oct. 28th, Princess Henry of Battenberg came from Balmoral to Aberdeen to open a two days' bazaar in the Music Hall Buildings in aid of the Royal Hospital for Sick Children. The route from the Joint Passenger Station to the hall was gaily decorated and the weather was fine. Previously to the opening ceremony several presentations, including the members of the hospital medical and surgical staff, were made to Her Royal Highness, who subsequently made a number of purchases, and before leaving the city was entertained to lunch in the Palace Hotel by the directors of the hospital. On Saturday the bazaar was reopened by Lord Provost Mearns. The proceeds of the two days' sale amounted to £1440.

University of St. Andrews.

On Oct. 29th the recently appointed medical professors were installed:—Professor Stalker to the chair of Medicine, Dundee College; Professor Macewen to the chair of Surgery, Professor Muir to that of Pathology, and Professor Kynoch to that of Midwifery. Principal Donaldson administered the oath. There was a large attendance of students and others in the Library Hall, St. Andrews University, where the ceremony took place. Professor Lawson (English Literature) was installed at the same time.

Nov. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal University of Ireland.

THE ceremony of conferring degrees took place at the Royal University of Ireland on Oct. 28th in the presence of a very large and distinguished audience. The

Marquis of Dufferin and Ava, Chancellor of the University, delivered an address, in which he alluded to the recent institution of diplomas in agriculture by the Senate and to the work which the University had done in certain spheres of physical research. The degree of D.Sc. (*honoris causâ*) was conferred on Sir Richard Thorne Thorne, K.C.B., M.B. Lond., F.R.S., and Professor Thomas Preston.

Treatment of Epileptics in Irish Workhouses.

The Countess of Meath has recently addressed a letter to the Dublin morning papers calling attention to the fact, elicited by her from the medical officers of several unions, that pauper epileptic patients are placed in the same wards as lunatics.

Mercer's Hospital, Dublin.

At a meeting of the Commissioners of the Pembroke township, held on Oct. 30th, a letter was read from the governors of Mercer's Hospital asking for a contribution in aid of the funds of that institution and stating that the Corporation of Dublin had withdrawn a grant of £300 which they had annually made. The secretary was directed to reply that the request could not be complied with.

Royal College of Surgeons in Ireland.

The ceremony of opening the School of Surgery took place on the afternoon of Nov. 1st, when the medals and prizes awarded during last session were distributed by Mr. Robert L. Swan, the President of the College.

North of Ireland Branch of the British Medical Association: President's Address.

On Oct. 27th, in the presence of a large audience of medical men, the incoming President, Dr. Henry O'Neill, inaugurated the present session by giving an opening address on Recent Advances in Brain Surgery. After thanking the members for the honour conferred on him Dr. O'Neill began by pointing out the special importance of head injuries and discussed the question of localisation of functional and motor areas in the brain. He thought that Professor Chiene's method for ascertaining the relations of the cerebral convolutions to the scalp the best and he hoped the members would soon have an opportunity of judging the undoubted value in surgical practice of a simple plan described by Professor Symington of Belfast at the late Edinburgh meeting for localising the motor areas of the brain. Dr. O'Neill dwelt very fully on the aseptic management and the technique of the surgical treatment of cerebral wounds in the operation of trephining and he gave an account of a series of cases to show the great success of cerebral surgery, the patients themselves being exhibited. Finally, he discussed the indications for operation in surgical injuries of the head. The address was illustrated by limelight views, which made it much more clear and striking, and Messrs. Down Brothers lent a series of recent types of instruments used in Brain Surgery. On the conclusion of the address a very hearty vote of thanks to Dr. O'Neill, moved by Professor Byers and seconded by Lieutenant-Colonel Moorhead, I.M.S., was passed. Communications on medical subjects were then brought forward by Mr. M'Harry, Dr. Dempsey, and Mr. Robert Campbell.

The Condition of Workers in Flax-scutching Mills.

A case of great importance to flax-scutching mill-owners was heard at Garvagh Petty Sessions (county Derry) on Oct. 27th, when the proprietor of a flax-scutching mill was summoned by the Commissioners, under the Factories and Workshops Act, to show cause why the order for the erection of a ventilating fan was not complied with. Her Majesty's Inspector under the Factories and Workshops Act brought the action in order to ameliorate the conditions of work in flax-scutching mills, the idea being that dust and other impurities were generated in, and inhaled by workmen in, this mill and that this could be prevented by the use of a fan or other mechanical means, which had not been provided although notice had been given, and that consequently the factory was not kept within the meaning of the Act. Evidence was given by the inspector, flax scutchers, Dr. Morrison (medical officer of the district), Dr. Steel (medical officer of health), and Dr. T. M. Legge (medical inspector of factories) to show that there was dust in the mill which was so fine that it would float in the air and would, after being inhaled, cause injury to the lungs. For the defence evidence was called to show that those examined had all had experience of working in scutch mills and that they had not suffered in health thereby. Mr. Cochrane testified that scutching would not affect a healthy person but would a person already diseased. The bench were about to impose a nominal penalty, but at the request of the solicitor of the mill-owner it was decided to impose sufficient penalty to allow the defendant to appeal, and this was accordingly done.

Nov. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Peritoneal Immunity to Certain Operative Infections.

MM. AUCHÉ and CHEVANNAY of Bordeaux were able to communicate to the Society of Biology at its meeting on Oct. 25th some interesting results obtained by experiments in peritoneal infection. It is well known that in certain animals the peritoneum is able to resist the introduction of virulent cultures and MM. Auché and Chevannay have now been able to prove that the human peritoneum possesses the same power. They brought forward 5 cases in support of their argument: 2 were cases of total abdominal hysterectomy for fibroma; 1 an ovariotomy for cystic epithelioma of the ovary; 1 a laparotomy for tuberculous peritonitis, and 1 for contusion of the abdomen. All were operated on under the strictest antiseptic precautions and all made a good recovery. In 3 of the cases there was no peritoneal effusion; in the other 2—i.e., the contusion and the tuberculous peritonitis—there was effusion. From the first 3 towards the end of the operation a few drops of blood which had escaped into the peritoneal cavity were collected in Pasteur pipettes, while from the other 2 a little of the effusion was taken in the same way at the beginning of the operation. Lastly, as drainage tubes were employed in some of the cases fluid from these drains was collected at different periods. Cultivations were made upon bouillon and various solid media, with the result of convincing the experimenters that the peritoneum is always infected by an operation, as a rule by the staphylococcus albus, even if previous to the operation the peritoneal contents have been shown to be sterile. Fluid from the drainage-tubes taken three and five days after the operation showed both staphylococcus albus and aureus. MM. Auché and Chevannay conclude from these results that despite all the precautions taken by surgeons the peritoneum is more often infected during an operation than is commonly supposed, but that, as a rule, such infection does no harm. The influence of the personal resistance of the patient thus appears to be very considerable as was indeed always affirmed before the advent of micro-biology.

Splenectomy for Malarial Infection.

A paper on 22 cases of splenectomy for malarial infection was communicated to the Academy of Medicine on Oct. 25th by M. Jonnesco of Bucharest. The spleens removed weighed from 850 to 5750 grammes and in every case but one were firmly fixed by adhesions, while most of the patients were profoundly anæmic and cachectic. One patient only died from the operation and that death was from secondary hæmorrhage, while seven others finally succumbed owing to their generally unhealthy condition or to some complication independent of their malaria. In all there was rapid improvement in the proportion of red corpuscles and a diminution in the toxicity of the urine. These results M. Jonnesco considers enable him to confirm, as he had always been inclined to do, the theory of Laveran that so far from the spleen being a protective organ against malaria it is really a sort of reservoir for the hæmatozoa where they accumulate in the intervals of the paroxysms. To do away with the spleen is, therefore, to do away with the storehouse of infection.

Meeting of the French Medical Associations.

The annual meeting of the French medical associations (*syndicats*) was held on Oct. 25th at the Hôtel des Sociétés Savantes. Delegates attended from sixty associations. A number of subjects came up for discussion, of which the following were the most important. Protests were made against the new legal regulation concerning accidents to workmen whereby a wounded workman is considered as a pauper and the medical man is obliged to attend him at the tariff laid down by the Assistance Public for those patients who are charged nothing. Objections were put forward to the system of gratuitous medical assistance, and it was considered that distant visits in the country should be paid

for by mileage and that the choice of the medical man should be left entirely to the patient. A resolution was passed that promotion of medical men in the reserve and the militia and their right to reach the highest position should not be limited as at present to those on the staff of a hospital or the professors in a Faculty. A dinner was held in the evening with Professor Brouardel in the chair. In the course of his speech he remarked that he would do everything in his power to get the new regulation as to the 30-franc tax imposed by the Library of the Paris Faculty of Medicine rescinded.

A Patriotic Fête at the Charité Hospital.

The students working under Dr. Gouraud, who is physician at the Charité Hospital, and whose son Captain Henri Gouraud has just covered himself with glory in the Soudan by the capture of the well-known chief Samory, got up a *fête* in honour of the event. Dr. Gouraud's wards were ornamented with flags and flowers and many stirring speeches were made.

The Disinterestedness of Dr. Calmette.

Dr. Calmette, Pasteur's well-known pupil, who was recently appointed as chief organiser of the Pasteur Institute at Lille and who has won much fame by his researches into the question of immunity for serpent venom, has made another discovery of a more purely commercial nature. By this discovery he was enabled to manufacture alcohol very much purer and stronger than is usual at a distillery and at the same time much more cheaply. He sold his secret to a large factory near Lille and very soon realised the handsome sum of 250,000 francs. This sum he has handed over absolutely to the Pasteur Institute, over which he presides, although he is not personally a wealthy man. This act of munificence, which has been noticed solely by the medical press and ignored by the political journals, is considered as a protest against the recent action of Dr. Behring.

Obituary.

Dr. Pilliet, one of the best known histologists of the day, has just died after a long illness. He was curator of the Pathological Museum at the Faculty of Medicine (the Musée Dupuytren) and head of the laboratory of clinical surgery at the Charité Hospital.—Dr. Chipault, whose son is so well known for his researches on the nervous system and its bony coverings, died suddenly at Orleans while he was performing an operation.—M. Tocepart, a young house physician at the Tenon Hospital, died recently from typhoid fever contracted in the discharge of his duties. His death is all the more sad as his mother only the other day lost both her husband and her other son.

Nov. 1st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Virchow.

THE winter session of the Berlin Medical Society began on Wednesday, Oct. 19th. The principal event of the first meeting was the enthusiastic reception given to the chairman, Professor Virchow, who had just arrived from England. The presidential chair was decorated with flowers, and when Professor Virchow entered the members rose to listen to an address of welcome read by the vice-president, Professor von Bergmann, who said that Professor Virchow had gone to England as a peaceful conqueror, that he had there worthily upheld the renown of German science, and that the society felt very proud of the high esteem in which their president was held by the most distinguished English *savants*. In his reply Professor Virchow said that he had been very much impressed by the cordial manner in which he was received by the members of the English medical profession. He had been anxious to satisfy such a critical audience as that connected with Charing Cross Hospital Medical School, from which men like Huxley and Livingstone had come. Referring to the present condition of medical science in Great Britain he said he was astonished at the development of experimental methods. When he was at the International Medical Congress held in London in 1880 medical science was severely threatened by the anti-vivisectionists, whom he, in company with his old friend, Sir James Paget, had to oppose. Now the anti-vivisectionists are obviously defeated and the victory of experimental medicine assured. Professor Virchow next touched on the recent opening of the new laboratories at Liverpool at which he was present, and pointing to the portraits of Lord Lister and Sir James Paget, which among other portraits of leading medical men adorn the assembly hall of Langenbeck House, he said that the services rendered to medical science by these two men were thoroughly well known to the meeting. On the conclusion of his speech, which was received with great applause, Professor Virchow took the chair, which had been occupied during the earlier part of the proceedings by Professor von Bergmann, and then the business of the society began. The meeting again stood up in token of respect to the memory of the members deceased during the recess—one of them being Professor Nasse, who had los his life by an accident on the Alps. The first paper, on the Etiology of Syphilis, was then read by a visitor, Dr. Nissen of Wiesbaden. The bacillus alleged by him to be the cause of the disease was not acknowledged either by pathologists such as Professor Wolff or by dermatologists such as Professor Lassar.

The Red Cross Exhibition.

An interesting exhibition lately took place in Berlin under the auspices of the German Red Cross Society. The principal aim of this society, as is generally known, is to support the official authorities in the care of sick and wounded soldiers in war-time, and in time of peace to provide aid for injured persons, the victims of epidemics, &c. The exhibition was divided, into eight sections: (1) first aid; (2) ambulances; (3) housing of sick and wounded soldiers; (4) domestic appliances for hospitals; (5) surgical appliances for hospitals; (6) nursing appliances; (7) clothing of ambulance men; and (8) literature. The Army Medical Department was very well represented in the exhibition. Arrangements had been made by this department to show in a very practical way to the public what is done with the soldier from the moment of his being wounded till his return home. This special exhibition took place on an extensive open space in connexion with the exhibition palace. The grounds were divided into different sections, each to represent a different phase in the treatment of the wounded soldier. The first section, marked "Truppen-Verbandplatz" (station for surgical dressings), showed the place where first aid is given by the surgeons accompanying the troops under fire; its equipment is, of course, very simple, consisting only of some litters, dressing boxes, &c. The second stage was represented by the "Haupt-Verbandplatz" (operation station), situated beyond the reach of the enemy's bullets. There the most urgent operations are to be performed and a much greater equipment is thus required. Ambulance waggons, vehicles with dressing material, surgical instruments, a pharmacy waggon, &c., were exhibited there. The third section showed the "Feldlazareth" (field hospital), of which every army corps has 12 of 200 beds each. A long column of carriages of every description exhibited the difficulty of carrying the equipment of such a hospital to the battlefield; there were carriages with tents, clothes for the wounded, bed-linen, surgical applicances, preserved provisions, &c.; a number of tents were also exhibited ready for use. From the field hospital the patients return home by the hospital train, expressly fitted for the transport of sick and wounded. A train consisting of hospital cars with beds, cooking cars, officers' car, pharmacy car, &c., was also on the grounds. During the journey the men get refreshments at the "Erfrischungs-Stationen" (refreshment places) provided and equipped by the Red Cross societies and at home they are at last received into the society's "Reserve-Lazarethe" (reserve hospitals), where they may stay till the cases terminate in recovery or death. The Army Medical Department's exhibition was made especially interesting by the fact that all the ambulance cars, hospital tents, and railway carriages were shown ready for use and fully equipped from the most complicated surgical instruments to the torches and electric apparatus which the ambulance men use in searching for the wounded after battle. The War Office has done well in proving to the public that nothing will be omitted to relieve the unfortunate victims of a possible war. The other sections of the Red Cross Exhibition showed hospital ambulances as used in the larger towns of Germany, and arrangements for first-aid in factories, in street accidents, &c. In connexion with the exhibition a congress of the Volunteer Ambulance Columns of Germany took place. The Berlin and Munich columns held a "manœuvre," its idea being that after a

battle near Berlin a great number of wounded still lie on the field and are to have their wounds dressed and to be removed by ambulances, trains, &c., to the hospitals. The surgeon-general, head of the Army Medical Department, Dr. von Coler, and many army and civilian surgeons were present at the "manœuvre," which proved a great success.

The Plague in Vienna.

The news of the outbreak of plague in Vienna has caused a great sensation here and there was some uneasiness felt lest the epidemic might spread to Germany by the manifold relations and the great traffic between the two countries. Now that the epidemic seems to be localised public opinion has become reassured; some journalists, however, seem to be afraid that a similar incident may occur also in this city. An interviewer calling at the Institution for Infectious Diseases was informed that cultures of plague bacilli in a virulent state were not kept there and that Professor Koch had strictly forbidden experiments with these dangerous bacilli. The *Official Gazette* also states that there are no virulent cultures of plague bacilli either in the above institution or in any other of the State laboratories.

Infra-clavicular Luxation of the Humerus.

In the *Berliner Klinische Wochenschrift* the late Professor Nasse described an interesting case of infra-clavicular luxation of the humerus observed by him in the Royal Surgical Clinic of Berlin. The patient was a man, fifty-six years of age, who had fallen from a horse and was admitted to the clinic ten days afterwards. There was great ecchymosis of the right shoulder and its surroundings, extending as far as the lower ribs and the elbow. Beyond the clavicle, notwithstanding the great swelling, a protuberance could be felt which proved to be the head of the humerus. The mobility of the joint was, of course, almost lost. The arm could not be brought to the side, elevation was impossible, and rotation and abduction could only be accomplished in a small degree. As attempts to perform reduction were unsuccessful owing to the humerus always gliding off the glenoid cavity, Professor Nasse decided on operative replacement of the humerus. Owing to the severe laceration of the muscles, which made efficacious aseptic treatment rather difficult, he resolved to wait for some days, but unfortunately the patient was attacked with delirium tremens and so the operation could not be performed before the lapse of three weeks. He made an incision beginning in the axilla and continued parallel to the inferior edge of the pectoral muscle, but when he attempted reposition in that way he met with an unexpected difficulty, for the hæmorrhagic infiltration of the muscles had in the course of time become transformed into hard, fibrous matter in which the head of the humerus was, as it were, immured, and it was impossible to draw it from the clavicle. The muscles were all torn off from their attachments and the glenoid cavity was covered with fibrous tissue. As there was therefore no prospect of a useful joint resection of the humerus was performed, with the result that the patient is now able to abduct the arm for about 45° and to raise it above the horizontal position. This case proves that operation should not be postponed but should be performed at once when reduction has proved unsuccessful. Infra-clavicular luxations are rather rare and only four cases have been examined anatomically. Reduction is always difficult and was especially so in the above case, where the capsule and the muscles had been completely pulled off. The difficulty of reduction was due to the circumstance that the capsule was either situated loose in the glenoid cavity or was kept strained by the muscles of rotation, the consequence being that the head of the humerus always slipped off the glenoid cavity.

Oct. 30th.

ERRATUM.—In the letter of our Berlin correspondent published on page 1092 of our issue of Oct. 22nd, the word "not" was accidentally omitted in line 10 of the first paragraph. The passage ought to read "should *not* be sent to Carlsbad first." The context shows with sufficient clearness that Professor Kehr disapproves of a routine system of sending every patient to Carlsbad and deferring operation till a case is desperate.

NEW SANATORIUM AT BRIGHTON.—The Mayor of Brighton, Sir John Blaker, opened the first portion of a new borough sanatorium on Thursday, Oct. 27th. The new buildings will cost about £19,775.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Down with Duelling."

"*Abbasso il duello*" rang from one end of Italy to the other when it became known that one of the most gifted and patriotic, if not the most wise, of Italians lost his life in a duel on March 6th last in the Roman Campagna. Felice Cavallotti, the "combatant Shelley" of his country's politics, had survived over thirty such encounters; Signor Macola, the antagonist who killed him, was a novice, not to say bungler, with the sword; and the unexpectedness of the result had, I suspect, not a little to do with the indignant outory which followed it. Be that as it may, the trial of Signor Macola, which has just ended in his condemnation to thirteen months' imprisonment, seems to give general satisfaction, and will, it is hoped, be the prelude to a like intervention of the law on every repetition of the same offence. For duelling is by the criminal code of Italy a *delitto*, or crime, and its continuance is not only an outrage in itself but a direct encouragement to defy the law in every relation of life. With what consistency can the tribunals enforce their decrees when *avvocati* and members of Parliament, the makers and the upholders of law, are themselves the first to infringe it as often as a so-called "affair of honour" crops up? Poor Cavallotti will have done Italy a higher service than any he wrought her in his generously inspired but ecstatic and wayward career if by his tragic death he puts an end to duelling and makes the mediæval tradition which has disgraced the nineteenth century impossible in the twentieth.

Two Brigades of Artillery Poisoned.

At Brescia some thirty soldiers of the 16th Artillery having had their usual supper were immediately thereafter seized with violent abdominal pains accompanied by vomiting. Verdigris in the cooking utensils was at once suspected, but no trace of it was to be found and the food prepared and served in the same apparatus was next evening followed by the same symptoms. The food itself was next analysed, but no deleterious matter was detected in it. Poisoning, however, of a serious kind there has undoubtedly been, and, pending still more searching inquiry, the medical officers of the regiment suggest that the "pasta" or farinaceous element in the rations has been partially acidified, probably by the urine of rats in the store-rooms—a cause not unknown to barrack experience. Such "accidents" as the above are all too frequent in Italy. Mushroom poisoning is of more than weekly occurrence from the consumption of doubtful or deleterious fungi among the lowest classes, too poor to be fastidious or even careful. Ptomaine poisoning due to the ingestion of unsound fish destroyed nearly a whole family in Florence not so long ago, and infective pneumonia communicated from parrots became well-nigh epidemic in Genoa till the Uffizio di Sanità stamped it out by a veto on the harbouring of such household pets. Not till men and women in Italy are taught to be "the intelligent custodians of their own health" will such "accidents" become as rare as in the British Isles.

The English-speaking Practitioner in Italy.

The Congresso degli Ordini dei Medici, convened annually for the consideration and discussion of professional interests, deserves nothing but praise from the impartial outsider until it meddles with the practitioners of non-Italian nationality, whose *clientèle* is restricted to their compatriots resident in the kingdom. On Monday, Oct. 24th, the congress (the second of the series) met in the Aula Magna of the University and after preliminary business, including a report on the proceedings of its predecessor, it was addressed by Dr. Santini (a member of Parliament) on the subject he has made peculiarly his own—to wit, the right of medical men not furnished with an Italian diploma to practise in Italy. It had been thought that this *vexata quæstio* had been fairly and finally laid to rest last spring, when, intervening on behalf of Great Britain, Lord Salisbury induced the Di Rudinì Administration to let the duly qualified English-speaking practitioner pursue his calling as heretofore among his compatriots, that privilege being withheld from those only whose want of a diploma would have excluded them from the profession in their own country. This quite equitable arrangement, however, is far from satisfying Dr. Santini and the party—narrow, I believe, in numbers as in mind—for whom he speaks. At the

meeting above referred to he reopened the whole question, censured the Di Rudinì Government for having failed to give due consideration to a subject so important, and proposed the nomination of a commission empowered to wait upon the Ministers of the Interior, of Foreign Affairs, and of Public Instruction in the Pelloux Administration and to lay before their Excellencies the propriety of taking steps "affinchè ai medici Italiani sia concesso il trattamento che l'Italia faccia agli stranieri, e che sia radicalmente mutato o soppresso l'articolo 23 della legge sanitaria" (that Italian medical men be vouchsafed the treatment Italy metes out to foreigners and that Article 23 of the public health law be radically changed or suppressed). This proposal was carried in a "congress" of fewer than sixty members and a commission *ad hoc* was forthwith nominated, consisting of the Senators Durante (absent from "sciagura domestica" or family affliction) and Morisandi and the members of Parliament Dr. Santini and Dr. Angiolini (the latter representing the medical "ordine" in Florence). We are face to face, then, with a renewal of an agitation which was supposed to have happily died down, and we may expect to find the Pelloux Administration importuned with the pertinacity and energy brought to bear on its predecessor for the purpose of committing it to a policy which must end in excluding the English-speaking physician or surgeon unprovided with an Italian qualification from practising among his compatriots in the kingdom. This, and nothing less than this, is the end and aim of Dr. Santini's adroitly-drawn proposal, for ignoring the fact that Italians in the British Isles are numbered by units and the English-speaking world, migratory or resident, in Italy by tens of thousands, he requires a law to be exacted from the General Medical Council of Great Britain which would treat the Italian practitioner in England and the English practitioner in Italy as proportionally on the same footing, this preposterous demand being merely a cover for the real object of his agitation—to abrogate, that is to say, Article 23 of the Italian "legge sanitaria" which allows English-speaking medical men to cultivate a *clientèle* among their compatriots residing in Italy, while refraining from practice among the Italian population. It would be idle to reiterate the arguments already familiar to readers of THE LANCET by which the Di Rudinì Administration felt constrained to accede to the equitable requirements of Lord Salisbury and recognise the legal status of the English-speaking practitioner in Italy. I venture to predict that the renewed agitation will fare as badly as its defunct predecessor; and this for many reasons—one of which I may adduce. The sole supreme interest in the kingdom of Italy—an interest likely to be perennial—is the financial one. Year by year her ablest and astutest financiers are finding it more and more difficult to make ends meet. One-third of her revenue is derived from the annual sojourn within her borders of the English-speaking world alone, and that sojourn and the money it pours into her shrivelled circulation would be reduced by at least one-half if the medical attendance to which the said world is accustomed, in which alone it has confidence, and on which it counts, were denied it. She must, in other words, do everything to attract—nothing to repel—the wave of English-speaking travel which is annually to her what the yearly rise of the Nile is to Egypt; and if Dr. Santini and his following ever get so far as to "take the sense" of the Italian people and the Italian Parliament on their proposal they may expect to encounter as severe a rebuff as ever came from an indignant householder fighting *pro domo suâ*.

Oct. 31st.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Citadel Hospital.

MANY medical visitors to Cairo have seen and admired the English military hospital inside the lofty Citadel, with its walls and ceilings decorated in the Turkish palatial style, and the unique view of the neighbouring country obtained from its windows and balconies. Tradition says that the great Saladin chose this rock as the place to build his citadel, because he found that meat remained fresh there for a longer time than in other precincts of Cairo. But fresh air alone is, unfortunately, not enough to cure disease, and a week ago, when I was kindly allowed to visit the wards, I found them fuller than I had ever seen them before. In spite of the spaciousness of the building many convalescents had to find accommodation in tents in the garden. Altogether there were 458 sick and wounded British officers and men. This number included very little venereal disease—for that at least cannot be caught in the desert, but there were 120 cases of enteric fever and a large number of sufferers from dysentery. There were 50 wounded men all neatly bandaged with cyanide gauze and sal-alembroth wool. Since then 280 sick and wounded have been sent home to Netley in the transport *Jallunga*, and to-day the total number in hospital is 320. The temporary overcrowding has resulted from the rapid evacuation after the fight of all sick from the Nile stations to Cairo. This was considered advisable in order to secure for the sufferers a cooler climate and various luxuries as soon as possible. It was always foreseen that there would be a considerable number of sick after the campaign, and all difficulty would have been prevented if the home authorities had consented to supply a hospital ship. This ship, properly fitted up for the reception of sick and wounded, would have waited patiently in Alexandria harbour at the beginning of September. The sick, instead of being landed in Cairo, jolted 3 miles up the hill, and then allowed to suffer the damp heat of the worst month in the year in Cairo, would have continued their journey peacefully to the sea, where they would have been refreshed by cool breezes and the thought that they were really homeward bound. The ship when it had received its complement of sick would have proceeded immediately to England and would have saved much discomfort and perhaps some lives. But the penurious authorities in London decreed otherwise and poor Tommy Atkins has been going every day lately to the English cemetery in fours, fives, and sixes. There are now 80 cases of enteric fever in hospital and about the same number of dysentery patients. Until lately the percentage of deaths among the enteric fever cases was 11, but now it is a little higher. The dysentery cases have not been very severe and have yielded usually to the routine ipecacuanha treatment. The wounded have almost all done well, especially some sabre cuts. One man who was shot through the lung developed empyema. Perhaps the bullet took in with it some septic germs from the man's clothing. The hospital operating theatre has been greatly improved this summer and is now well furnished with modern aseptic instruments and materials. Adjoining it is a Roentgen ray department worked by the Royal Army Medical Corps, who tell me that it has been of great use to them. The hospital still suffers from the plague of bugs, which probably live in the wooden ceiling and lath-and-plaster walls. Colonel Barrow, the present senior medical officer of the hospital, has been waging war against them during the whole summer.

Enteric Fever and Dysentery.

All the cases both of enteric fever and dysentery are the direct result of the campaign. Some men sickened at the front, many on their way down the Nile, and dozens of others after their arrival in Cairo. The same course of events succeeded the Dongola and other sections of the Nile campaign. This time the Atbara station seems to have been specially productive of both diseases. Among other officers now in hospital there are two surgeons, one with dysentery and the other with enteric fever. How do the men get these diseases? Surely the troops infect themselves. One man develops enteric fever, pollutes the water long before his disease is recognised, and other cases follow. The camping ground left by one regiment is occupied by another which inherits germs and their vested interests. It is difficult to see how this will ever be prevented in time of war unless general officers will consent to a large supply of proper filters accompanying the army. This time the Berkefeld filters in the gun case invented by the Royal Engineers did very well, but there were not nearly enough of them. Men dying from thirst cannot afford to wait while water is boiled and cooled or even filtered for them. Another weak point of the filters is that means have not yet been provided for sterilising the candles of the filters. Instructions were issued to scrub the candles once a fortnight and then pass through them a solution of caustic potash. But if a filter is working for several hours in muddy Nile water it will require cleansing every day, and it cannot be trusted unless it has recently been sterilised as well.

Movements of the Royal Army Medical Corps.

Surgeon-General Taylor is proceeding to India, after a banquet which is to be given to him by the medical officers

to-morrow. Colonel Macnamara on promotion has left to take up the post of Principal Medical Officer at Gibraltar. Crete has absorbed 10 medical officers and a stationary hospital for 100 beds, besides large consignments of supernumerary stores. Twelve officers have been sent home to England and so there is a general dispersal of the large medical force, which all ranks praise in the highest terms for the excellence of the work done during great difficulties in the campaign. 21 officers were ordered to India, but no less than 11 of them were prevented by illness and had to be "invalided" instead. This week 8 officers are proceeding to India, and as some of them were warned that after the campaign they would have to continue their foreign service in India they made arrangements for doing so. But there are a few others now under orders for India who received no such intimation and on them the order falls particularly hard. A man is suddenly ordered on foreign service and at the end of hard work in an unhealthy climate he is told that instead of returning to his home and family he is to proceed to India for several years. This is quite unfair and has given rise to some not unnatural discontent here. The order has been made unnecessarily irksome by refusing leave to some officers who have been kept hanging about here with health impaired by their hard work and with nothing to do from the end of September to Nov. 2nd when they sail for India. These six weeks might have been more agreeably and profitably spent if leave to visit England had not been refused.

Cairo, Oct. 24th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Common House-fly the Carrier of Typhoid Germs in Camp.

THERE has been much speculation as to the great prevalence of typhoid fever in camps during the late war. Blame has been cast upon the water-supply of the camps, on the food, and on the surgeons. But it has been discovered at last that the common, busy house-fly has caused the typhoid fever in camps and is responsible for the deaths of hundreds of brave soldiers. This is the scientific conclusion of a commission of scientific men, appointed to investigate the condition of the camps, the cause of typhoid fever in them, and authorised to recommend measures to stop its spread and for its prevention in the future. The commission is a unit in declaring that the house-fly is responsible for the prevalence of typhoid fever in camps and brings forth apparently indisputable facts to support its conclusions. The report is of the greatest importance, not only to the War Department and the army, but to science itself, and will undoubtedly be the subject of much discussion. It will have great influence in determining the course of the War Department in the future in dealing with typhoid fever in camps and the members of the commission are willing to base their reputations as physicians and scientists on the accuracy of their conclusions. The commission visited the camps at Jacksonville, Huntsville, Fernandina, and Chickamauga. Everywhere it found typhoid fever and found it spreading. It found that in the majority of cases the typhoid fever was brought originally to the camp by regiments coming from the State camps. At Chickamauga the commission found the situation almost ideal; the ground was firm, the drainage was good, and the weather, though warm, was superb. Yet typhoid fever was prevalent there. The first question was, how did the fever get there? After investigation the commission concluded that it had undoubtedly been brought there from the State camps. The commission then sought to learn why the disease had spread and how it had spread. The water-supply of the camp was obtained from Chickamauga Creek and the water was said to be responsible for the spread of the disease. But one company did not get its water-supply from Chickamauga Creek, never did get its supply from that source, and yet many of its members were ill with the fever. The commission found that flies, as was naturally the case, were present in the camp by millions. It was the same way in every camp, their numbers being equalled only by those of the flies which infested Egypt during Pharaoh's plagues. The surgeons looked into the matter further and found that the flies fed from the fæcal matter from the hospitals and then at meal time shared the hard tack and bacon of the soldiers. In the first place the fly picked up on his six hairy little feet infinitesmal particles containing the germs of typhoid fever and in passing over the hard tack and bacon he deposited them there. One fly could do little harm, but millions of them conveyed a sufficient quantity of germs to inoculate large numbers of soldiers, which inoculation was slow but sure. The accuracy of this conclusion is, to the minds of the commission, amply demonstrated in the case of the company above mentioned, which drank no water from Chickamauga Creek. This company escaped the attack of typhoid fever until after a heavy and prolonged rainfall. Then a number of the members of this company were taken ill with typhoid fever, and the conclusion was immediately reached that its water-supply had become contaminated and that it was due to this fact that the fever made its appearance. But the medical commission holds that this was not the case, but that during rains and threatening weather flies seek for cover and become more persistent in their attentions to human beings than when they are able to skirmish for food in the open air. As soon as the rains began at Chickamauga the flies took refuge in the tents of this company and before they had been there long a number of the men were down with typhoid fever. It was found that in all the camps typhoid fever did not appear in isolated cases but that whole messes and in some cases whole tents of soldiers fell ill with the disease at the same time, showing conclusively that the fault lay with the food. At Jacksonville it was determined that fever was due to the fact that the sinks were connected with the sewers and frequently flushed. At Fernandina, where the system of tub-sinks was employed, it was found that this method worked very badly instead of very well, as was generally supposed. These tubs were collected every morning and hauled to a sewer and dumped; it was not possible to fill these tubs with dirt because they were dumped in the sewer, nor was any disinfectant used. These tubs were hauled through one street of a Wisconsin regiment and the fly was here busily at work. From the street he flew to the mess tables of the men in the tents, and as a result 50 per cent. of the men on the north side of the street were taken ill with typhoid fever, while the percentage of men ill from the same disease on the other side of the street was little lower. According to the commission the activity of the fly was not confined to the mess tent but he invaded the sleeping quarters of the men and exuded tiny bits of fæcal matter on their clothes and bedding, on their tent-flaps, and, in fact, everywhere, so that the very air itself was filled with fever germs. To prevent the ravages of the disease in the future the commission recommends that a new sink be used in the camps. It is now possible to have water connexions in every camp even where connexions cannot be made with sewers. It urged that metallic-lined sinks be constructed, 16 ft. in length, 2 ft. in width, and 18 in. deep, which troughs are to be slightly inclined and a connexion made with a water-pipe at one end. The other end is to project from the house and is to have a waste-pipe 3 in. in diameter and an upright pipe of the same diameter about 16 in. high. Every day this trough is to be filled with water in which a sufficient quantity of lime is to be placed. The waste matter will be thus disinfected as soon as it is deposited and all danger avoided. Every morning the sink will be cleansed by flushing it through the waste-pipe into a covered sink or into barrels properly covered and carried to some distant place for dumping. The commission also recommends that sinks shall be constructed in the future after the above pattern and placed on waggons, the whole apparatus being moved each day and the contents of the trough deposited in a safe place; such waggons could accompany the army on its march. It strongly urges that in every case great care shall be taken that such matter be disinfected as soon as possible by the use of lime or other disinfectants. The hope is that by this means the fly will be prevented from reaching the fæcal matter, or if he does it will have been disinfected and rendered harmless.

Yellow Fever in the United States.

Yellow fever which began to prevail in one of the ports on the Gulf of Mexico early in July, has continued to spread in spite of the most strenuous efforts on the part of the health authorities to control it. It is now prevalent in no less than twenty-six different towns in the States of Louisiana and Mississippi. Upwards of 800 cases have been reported with 50 deaths. The sanitary regulations to prevent its spread consist of an inspection of all railroad trains and disinfection of all cars, stations, and accessory buildings in the infected

district; but it is now evident that only severe frost will control its further spread.

Mortality among the Spanish Soldiers returning to Spain.

The reports from the transports which returned the Spanish soldiers to their native country show that the sickness and death-rate among these men had been very great. On one transport which carried 1000 Spanish soldiers 123 died on the voyage. This high sickness and mortality rate seems to have been due to the feeble condition of the Spanish soldiers resulting from the effects of the climate and improper and inadequate food.

Oct. 18th.

Obituary.

THOMAS HENRY MOXON, M.R.C.S. ENG., L.S.A.

MR. THOMAS HENRY MOXON was at the time of his sudden death on Sunday, Oct. 9th, the senior practitioner in Great Yarmouth. He was born at Hull in 1831, and in that town he commenced his medical studies at the now extinct Hull and Yorkshire School of Medicine. He was apprenticed to his brother, Mr. James Burdett Moxon, who then practised as a surgeon at Brigg in Lincolnshire, and who survives him. In 1853 Mr. Moxon took the diplomas of M.R.C.S. Eng. and L.S.A. He first commenced practice at Kirton-in-Lindsey, Lincolnshire, but after a few years he disposed of his practice there and went to Great Yarmouth in 1865–66, where he entered into partnership with his brother-in-law, the late Mr. Charles Palmer, and on the death of that gentleman in 1884 he succeeded to the entire practice. Throughout the whole of his professional life in Great Yarmouth he was looked upon by his brother practitioners as the soul of honour. He devoted himself with an untiring zeal and energy to his profession and was the possessor of a genial, kindly, sympathetic manner which made all classes of his patients look upon him as a true friend as well as medical adviser. The honour and dignity of the profession were ever matters of the highest concern to him both in his relations to the public and to his medical brethren.

For several years he served as a member of the Great Yarmouth School Board, working in the interests of the Church, of which he was a staunch and true member. Belonging to the older school of High Churchmen, he was tolerant of the views of others in Church matters to an unusual extent in one whose own views were so decided. He always took an active part in Church affairs and for many years was churchwarden to St. Andrew's Church. He was connected with the Volunteers for a long period, being allowed to retire last year with the rank of Surgeon-Lieutenant-Colonel to the 1st Norfolk Artillery Volunteers, E.D.R.A.; he obtained in 1897 the long service medal for thirty years' service and only this summer was presented by his brother officers in the brigade with a handsome testimonial. He was a member of the British Medical Association. In 1896 the medical men of Great Yarmouth united to form a district branch of the Incorporated Medical Practitioners' Association and Mr. Moxon was unanimously elected president. He filled the office for two years, but voluntarily retired at the commencement of the third year, the members of the branch presenting him with a piece of plate at their annual dinner in May last to mark their appreciation of his services as chairman as well as their personal esteem. Mr. Moxon was also a member and regular attendant at the meetings of the Great Yarmouth Clinical Society.

He was buried in the Great Yarmouth Cemetery on Oct. 21st. The funeral was attended by nearly every medical man in the town and a detachment of officers and men of the 1st Norfolk Royal Artillery Volunteers marched behind the hearse. A large number of the shops in the town were shaded out of respect to his memory and the church and graveyard were thronged by his fellow townspeople of all classes. He leaves behind him two sons and six daughters who deeply mourn the loss of as good a man and as good a father as ever lived.

CHARLES VAUGHAN SYMMONDS BENNETT, M.R.C.S. ENG., L.S.A., J.P.

THE death took place on Oct. 22nd of Mr. Charles Vaughan Symmonds Bennett, at his residence, Kensington House, Haverfordwest. Mr. Bennett received his medical education at Guy's Hospital, London, and took the qualification of M.R.C.S. Eng. and L.S.A. Lond. in 1858. The deceased, who was sixty-two years of age at the time of his death, had been in practice for many years in Haverfordwest and was formerly in partnership with the late Dr. Brown of that town. He was also surgeon to the Haverfordwest Infirmary and was a Justice of the Peace for Pembrokeshire and Haverfordwest. Mr. Bennett was highly respected and much regret is felt at his death.

MABEL ELIZABETH WEBB, M.B. LOND.

THE following notice has been sent to us by a member of the medical staff of the Royal Free Hospital:—"A few days since we were all saddened by the news of the sudden death of Mabel Webb at her mother's house in Hampstead. On the day preceding her death she was, as usual, at her work in the hospital and in twenty-four hours she was at rest from her earthly labours. For as long as fourteen years she had suffered from gastric pain, for which she was treated by several of the leading London physicians. Last Christmas, after a long period of latency, symptoms of fresh activity appeared and her medical attendant insisted on her relinquishing her work for a period of several months, which were spent in holiday on the Nile. From Egypt she returned in the early summer, seemingly in the best of health and free from all symptoms of the local trouble, and in thoughtfulness for the work of the hospital resumed her duties. On the evening of Oct. 27th she was seized with abdominal pain, but having experienced similar attacks previously she felt no alarm and thought it unnecessary to send for her regular medical attendant, who knew intimately the whole course of her illness. Next day, when surgical assistance was hastily summoned, all hope of life was gone and death from perforation of a chronic ulcer of the stomach followed in the course of an hour. By her untimely death at the early age of thirty-one years the Royal Free Hospital has lost a most valued servant. Graduating at London University in 1896 Mabel Webb was appointed Curator of the Museum at the Royal Free Hospital in the spring of 1897. Those of us who worked beside her well knew how faithfully she fulfilled her trust, out of sight of professional advancement, without a thought of professional reward. To many of us her life was at once a pattern and a precept, and those of us who had the privilege of her closer friendship feel that we have lost a sister. Bringing into her everyday work all the refinement of her personality she could not fail to exalt her office therewith. Such of us as were dependent on her assistance will sadly miss her ever ready service and unfailing courtesy; nothing was too trivial for her earnest attention. On the students of the hospital her loss will fall with special heaviness; it will indeed be hard to find another hand so ready to serve, so eager to help. By her death we are all the poorer."

Medical News.

UNIVERSITY OF EDINBURGH.—At the special graduation ceremonial held on Oct. 29th the following degrees were conferred:—

Degrees of Bachelor of Medicine and Master in Surgery.—Frederick Thomas Hield Adamson, Scotland; Arthur Leonard Anderson, New Zealand; Edmund Balmer Anderton, England; Frank Beecroft, England; Arnold Louis Joseph Branday, Jamaica; Harry Marchant Bundey, Australia; Duncan Alexander Cameron, England; Richard Craven, England; John Glen Forsyth, Scotland; Joseph Vincent Fox, England; Arthur George Hayden, England; Edith Isabella Hudson, India; Frederick John Jude, Australia; David James Cooper Oliver, Scotland; Duncan James Peirson, England; Dorothy Ellen Pratt, India; Thomas Pretsell, Scotland; Frederick William Price, England; Frederick Stanley Rose, Scotland; Alexander Hamilton Rutherford, Australia; Charles Robert Scott, Scotland; George Harper Wilson, Scotland; and John Brunyee Wilson, England.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Daniel Vere Maxwell Adams, Scotland; Anthon Sutherland Allum, Trinidad; Ernest George Ffrench, Jamaica; Edgar Robert Grey, B.A., South Africa; Albert Alexander Gunn, Scotland; Alexander George Hamilton, England; James Haworth, England; Joseph Hunter, Scotland; Balfour Stuart Hyslop, Scotland; Gerrit Hendrik Willem de Labat, South Africa; William Lockerbie, Scotland; David Valentine M'Intyre, M.A., Scotland; Andrew M'Kaig, Ireland; William Walker Maxwell, England; Philip

Ernest Millard, England; William John Nutter, England; Henry Kenneth Paxton, India; Ernest Cromwell Peake, England; Arthur de St. Leu Frederick Perigal, England; George Herbert Stewart, India; Arthur Henry Thompson, England; Peter George Leeb du Toit, South Africa; and Arthur George Worrall, Scotland.

Degree of Bachelor of Science.—Alan Wilfrid Cranbrook Menzies, M.A.

CARDIFF NATURALISTS' SOCIETY.—At the annual meeting of this society Dr. C. T. Vachell was elected President.

BATH RURAL DISTRICT COUNCIL.—At the meeting of the Bath Rural District Council held on Oct. 22nd it was decided to adopt the Infectious Diseases Notification Act.

MEDICAL MAGISTRATE.—Mr. E. Barnard Fuller, M.B., C.M., F.R.C.S. Edin., has been appointed a Justice of the Peace for the district of the Cape, Cape Colony, South Africa.

INCREASE OF A CORONER'S SALARY.—At a meeting of the Carmarthenshire County Council held on Oct. 26th the clerk read the warrant of the Home Secretary increasing the salary of the coroner for the Three Commotts and Kidwelly districts from £100 to £160 per annum. This was in direct opposition to the decision of the council.

ROYAL LONDON OPHTHALMIC HOSPITAL.—A ball will be held in aid of the funds of this charity at the Empress Rooms, Royal Palace Hotel, Kensington, on Friday, Dec. 9th. Vouchers for tickets will be obtainable only from the committee, medical staff, and ladies' committee, and all communications on the subject should be addressed to the secretary, Royal London Ophthalmic Hospital, Moorfields, E.C.

VACCINATION OFFICERS AND THE NEW ACT.—On Saturday a special meeting of the members of the Vaccination Officers' Association was held at the offices, 4, Bessborough-street, St. George's, Hanover-square, W., for the purpose of considering: 1. The report of the deputation recently appointed by the Association to wait upon the Local Government Board with respect to the new Vaccination Act, 1898, so far as it affects vaccination officers, and (2) to confer as to the new orders thereon which have been issued by the Board. Mr. E. A. Frith (Marylebone) presided in the unavoidable absence of the President, Mr. Shaddock, and there was a large attendance of members.—Mr. C. O. Elkerton, the hon. secretary, reported that the committee—Messrs. Shaddock, Walter, and himself—had made every effort to obtain an interview with the Local Government Board, but without success. This appeared to be inexplicable, as the Board had received a deputation from the public vaccinators, notwithstanding that the request of the Association to be heard had been sent in some considerable time before them. The committee, however, had drawn up a complete statement explaining the views of vaccination officers with regard to the Bill and that statement had been duly submitted to the Local Government Board. He was glad to say that whether consequential or not the age limit had been reduced from twelve to six months, and provisions inserted to pay vaccination officers per head on the birth-rate, in addition to payment on successful vaccinations. General discussion ensued and several speakers called attention to a letter by "Public Vaccinator" which had appeared in the *British Medical Journal* urging that public vaccinators, private practitioners, and vaccination officers should cordially coöperate to make the best of the "tremendous experiment" under the new Act in order that a fair trial could be given to it. Opinion was freely expressed that this suggestion should be adopted, as far as vaccination officers were concerned, in order that the period of five years during which the Act will remain in force should not be wasted from the point of view of experience. The following resolutions were unanimously adopted:—"That the best thanks of this association be tendered to the London and District Poor-law Officers Association for the valuable assistance they had rendered to the vaccination officers in the critical time through which that branch of the Poor-law service had been passing"; "That in view of the disparity between the salaries of public vaccinators and vaccination officers this association trusts that boards of guardians will adopt the scale of the former for the remuneration of the latter, as the responsibilities and duties of vaccination officers were greatly increased under the new regulation"; and "That this association be extended to form a National Vaccination Officers Association."—Mr. C. O. Elkerton intimated that he would resign the honorary secretaryship and it was arranged that a testimonial committee be formed to arrange for a suitable recognition of his twenty years' service as the honorary secretary of the association.

THE LEWIS CARROLL COT.—Mr. John Murray, vice-president of the Committee of Management of the Hospital for Sick Children, Great Ormond-street, Bloomsbury, presided at a meeting at the hospital on Friday, Oct. 28th, at which the subscribers to the Lewis Carroll Memorial Cot presented to the committee a cheque for £1000 "to endow the cot for ever."

THE FLANNEL-SHIRT CLUB.—The Flannel-shirt Club, of which the Countess of Strafford is president and Mrs. W. H. Courtney vice-president, has already distributed nearly 700 flannel-shirts to patients discharged from the medical wards of general hospitals in the metropolis. The shirts are bestowed exclusively upon necessitous working men who require warm clothing on returning to work after serious illness, exchanging the shelter and comfort of the hospital for exposure in inclement weather and other hardships. The club, which was only started last year, has 183 members, but many more are needed to enable it to adequately carry out its objects. Subscriptions and donations should be sent to the honorary treasurer, Mrs. Clutton, 2, Portland-place, W.

UNIVERSITY COLLEGE OF WALES.—On Oct. 26th Sir William Harcourt opened the new central block of the University College of Wales, Aberystwyth, which has been erected at a cost of about £20,000 and to which he, when Chancellor of the Exchequer, gave a grant of £10,000. In the course of an eloquent speech Sir William Harcourt dwelt upon the backward state of English education, especially the lack of a secondary system, and hoped that this Parliament would give England what Wales possessed—a sound system of intermediate education. He then attended the annual meeting of the Court of Governors of the College and there received a motion of welcome. Mr. A. C. Humphreys-Owen, M.P., and Sir John Williams, Bart., M.D. Lond., were elected joint treasurers of the College.

UNIVERSITY COLLEGE, LIVERPOOL.—At a meeting of the Council of the College on Nov. 1st, donations were announced amounting to £13,000 towards the erection of anatomical laboratories and the further extension of the medical school. Plans for the construction of the anatomical laboratories will be prepared forthwith.—Mr. Henry Briggs, M.B. Edin., F.R.C.S. Eng., has been appointed Professor of Midwifery and Gynæcology in place of the late Dr. John Wallace. Dr. Briggs has had a long experience as a teacher, having held the posts of demonstrator of anatomy, demonstrator of surgery, and surgical tutor in the medical school. He was for ten years honorary medical officer to the Liverpool Ladies' Charity and Lying-in Hospital, and for the past eleven years has held the post of gynæcological surgeon to the Hospital for Women, Shaw-street.

PRESENTATIONS TO MEDICAL MEN. — Mr. Alexander Lewers, L.R.C.P. Lond., M.R.C.S. Eng., of Creswick, Victoria, Australia, has been the recipient of an illuminated address from the local medical union prior to his leaving for England.—Mr. T. H. Champ, M.D. Lond., M.R.C.S. Eng., of Beaconsfield, Tasmania, was entertained on August 25th at a social meeting of the inhabitants of the district and presented with three addresses and a purse of sovereigns on the occasion of his leaving the district.—Mr. Geo. E. Rennie, M.D. Lond., M.R.C.S. Eng., of College-street, Sydney, New South Wales, was the recipient on Sept. 6th and 15th of a purse of sovereigns and an illuminated address from the members of the New South Wales Branch of the British Medical Association and the Sydney and Suburban Provident Medical Association, of which organisations he has been the highly esteemed honorary secretary for about three years. The occasion of the presentation was Dr. Rennie's leaving for England.—On the 27th ult. a large company of the inhabitants of Crudon assembled in the Drill Hall, Hatton, to present Mr. A. G. Duguid, M.B., C.M. Aberd., and Mrs. Duguid, with tokens of esteem previously to their leaving the district. For the last fourteen years Dr. Duguid has been the medical practitioner of the parish, an active member of the School Board, and an energetic member of the local volunteer corps. The presentations consisted of an illuminated address and a

purse of sovereigns to Dr. Duguid, while Mrs. Duguid was the recipient of a tea and coffee service. On the silver service is the inscription—"Presented to Mrs. Duguid, along with an address and purse of sovereigns to Dr. Duguid, on the occasion of their leaving Cruden, 28th October, 1898."

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—The Duke of Westminster, accompanied by the Duchess, attended St. George's Hospital, Hyde-park-corner, on Saturday last, Oct. 29th, and distributed the prizes obtained by the students of the medical school during the past year. The following is the list of the Exhibitioners and Prizemen: Beaumont Percival, the Brackenbury Prize in Medicine; Harold Shuttleworth Barwell, the Brackenbury Prize in Surgery; Harold Robert Dacre Spitta, the Webb Prize in Bacteriology; Ralph Bignell Ainsworth, the Treasurer's Prize and Sir Benjamin Brodie's Prize. John Cosmo-Stuart Rashleigh, the Henry Charles Johnson Prize in Anatomy; Keppel H. Reed, Certificate of Honour in Anatomy, and General Proficiency Prize II. Sidney Herbert Nathan, Certificate of Honour in Anatomy. Adrian Caddy, Certificate of Honour in Anatomy; Charles Montague Neale May, Certificate of Honour in Anatomy; Henry George Drake-Brockman, Sir Charles Clarke's Prize; Lawrence Charles Hunt, General Proficiency Prize I.; Walter Fedde Fedden, General Proficiency Prize III.; Arthur Soloman Morley, General Proficiency Prize IV.; James Farquharson Powell, Certificate of Proficiency in Anatomy and Physiology; William Roberts Harris, Entrance Scholarship in Arts (£150); Hugh Basil Drake, Entrance Scholarship in Arts (£50); Sidney Horace Matson, Entrance Scholarship in Arts (£50); Reginald Winter Sprague, Entrance Scholarship in Arts (Pauline); Arthur John Jex-Blake, Entrance Scholarship in Science (£65); George Frederick Darwall Smith, Entrance Scholarship in Science (£85); and Samuel Herbert Lee-Abbott, Entrance Exhibition in Science (£40).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAM, B. J., M.B., Ch.M. Glasg., has been appointed Officer of Health for the Borough of Daylesford, Victoria, Australia, vice R. B. Allan, resigned.

ALFORD, HENRY JAMES, M.D. Lond., M.R.C.S., has been re-appointed a Medical Officer of Health for Taunton.

ATKINS, S. E., L.R.C.S. Irel., has been appointed a Medical Officer for the Hatherleigh Sanitary District of the Okehampton Union.

BAILY, EDWIN, M.D. Edin., has been appointed Admiralty Surgeon and Agent at Oban.

BILL, G., M.B., M.S. Edin., has been appointed a Public Vaccinator for Pyramid Hill, Victoria, Australia, and Officer of Health for East Loddonshire, East Riding, Victoria, vice H. G. Kelly.

BILL, J. F., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed a Second Assistant Medical Officer by Lewisham Union Guardians.

BOWES, W. H., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Medical Superintendent for the Plymouth Borough Lunatic Asylum.

BRIGGS, H. E., M.B. Edin., F.R.C.S. Eng., has been appointed Professor of Midwifery and Gynæcology for the University College, Liverpool, vice J. Wallace.

BRINDLEY, A. E., M.D. Lond., Ch.B., has been appointed a Medical Officer of Health for the Borough of Bury.

BROMET, EDWARD, L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Reigate and Redhill Cottage Hospital.

COLES, ALBERT CHARLES, M.D., C.M. Edin., has been appointed a Medical Officer for the Winton Urban District Council.

CRAWFURD, RAYMOND H. P., M.A., M.D. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician for King's College Hospital, London.

CROWE, G. E., M.D., B.Ch. Dubl., has been appointed a Medical Officer for the Cottage Homes of the Charlton Union.

DAUNT, WM., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the No. 4 Sanitary District of the Holborn Union.

EDWARDS, J. W., M.B., C.M. Edin., has been appointed a Medical Officer for the Third Sanitary District of the Middlesbrough Union.

FERGUSON, J., M.B., C.M. Glasg., has been appointed, *pro tem.*, a Medical Officer of Health for the Perth City and Police Surgeon, vice A. Simpson.

GREGG, JAMES, M.B., B.S. Dubl., has been appointed a Public Vaccinator for Wedderburn, Victoria, Australia, vice R. A. A. Manly, resigned.

HODGSON, JOHN, M.B. Lond., M.R.C.S., has been appointed Honorary Surgeon for the Oldham Infirmary, and also a Medical Officer for the Oldham School Board.

JOHNSON, J. B., M.D., C.M. Montreal, has been appointed a Medical Officer for the Lavenham Sanitary District of the Cosford Union.

KITCHIN, DR., has been appointed a Medical Officer for the Box District by the Chippenham Board of Guardians.

LETHBRIDGE, C. F., M.R.C.S., has been appointed a Public Vaccinator for Beaufort, Victoria, Australia.

MACBIRNIE, S., M.B., Ch.M. Glasg., has been appointed, *pro tem.*, Acting Medical Superintendent for the Beechworth Lunatic Asylum, Victoria, Australia.

MADDEVER, J. C., M.D., C.M. Glasg., has been re-appointed a Medical Officer by the Brownhills Urban District Council.

MARTIN, JAMES, L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Health Officer for Broad Arrow, Western Australia, vice Dr. Ewing, resigned.

MASON, J. J., L.R.C.P., L.R.C.S. Edin., has been appointed a Medical Officer for the Bollington Sanitary District of the Macclesfield Union.

MATTHEWS, J. M., M.B., B.S. New Zealand, has been appointed a Public Vaccinator for the District of Popotuna, New Zealand.

MOORE, H. O., M.B. Dubl., has been appointed Officer of Health for Karkarooc-shire, southern portion, and Public Vaccinator for Beulah, Victoria, Australia, vice F. Cheetham.

MULLEN, W. L., M.D., Ch.B. Melb., has been appointed, *pro tem.*, Acting Medical Superintendent for the Sunbury Lunatic Asylum, Victoria, Australia.

MURRELL, WM., M.D. Brux., F.R.C.P. Lond., M.R.C.S., has been re-appointed a Physician for the Westminster Hospital.

NEILD, NEWMAN, M.B., Ch.B., has been appointed a Clinical Assistant to the Chelsea Hospital for Women.

NICHOLS, W. E., M.D. Toronto, has been appointed a Clinical Assistant to the Chelsea Hospital for Women.

NOBLE, H. P., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Honorary Anæsthetist to the National Dental Hospital, Great Portland-street, London.

POLLARD, FREDERICK, M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Divisional Surgeon, Metropolitan Police, vice George Woodward, deceased.

POWELL, J. H., L.R.C.P. Edin., M.R.C.S., has been appointed a Medical Officer for the Workhouse and the Children's Homes of the Middlesbrough Union.

REID, M. A., M.B., Ch.M. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed a Public Vaccinator for Kerang, Victoria, Australia, vice T. M. Austin, resigned.

ROBERTS, L. W., M.B., B.S. Melb., L.R.C.P. Lond., M.R.C.S., has been appointed a Public Vaccinator for Walhalla, Victoria, Australia, vice J. Stewart, resigned.

SEED, W. P., L.R.C.P. Lond., M.R.C.S., has been appointed a Resident Medical Officer and Public Vaccinator for Coolgardie, Western Australia, vice A. McNeill.

SMITH, ALFRED CHARLES, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed, *pro tem.*, a Medical Officer by the Devonport Board of Guardians.

SMITH, HORACE, A.M., M.B., B.C. Cantab., has been appointed House Physician for the Boscombe Hospital, Bournemouth, vice W. Scott Tebb, resigned.

STILES, A. J., M.D. Edin., M.R.C.S., has been appointed a Public Vaccinator for the Spalding District, including Cowbit and the Parish of Deeping, St. Nicholas.

WALDEN, F. J., M.B., M.S. Edin., has been appointed a Medical Officer for the Sorell District, Tasmania.

WALKER, E. A., M.B., C.M. Glasg., has been appointed a Public Vaccinator for the New Plymouth District, New Zealand.

WALTERS, A. R., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Reigate and Redhill Cottage Hospital.

WARREN, E. D., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Superintendent for Garlands Asylum, Carlisle.

WATSON, H. J., M.D. Toronto, has been appointed a Clinical Assistant to the Chelsea Hospital for Women.

WEARNE, WALTER, M.R.C.S. Eng., L.S.A., has been re-appointed a Medical Officer of Health for Helston, Cornwall.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and residence. Also Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road, Brighton.—House Surgeon for six months. Honorarium £20 for that period and furnished apartments with attendance provided near the hospital.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE, Grosvenor-road, Chelsea, S.W.—Assistant Bacteriologist. Salary £100 per annum.

CHARING-CROSS HOSPITAL, Strand, London. — Assistant Obstetric Physician.

COUNTY ASYLUM, Prestwich, Manchester.—Pathologist. Salary £200 per annum, with furnished apartments, board, attendance, and washing.

DERBY COUNTY ASYLUM, Derby.—Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Physician.

ECCLES AND PATRICROFT HOSPITAL, Patricroft.—Resident House Surgeon for six months. Salary at the rate of £60 per annum.

GLAMORGAN COUNTY COUNCIL.—Bacteriologist for the Laboratory at Cardiff. Salary £250 a year. No pension attached. Applications to the Clerk to the County Council, Glamorgan.

GODSTONE UNION.—Medical Officer for the Southern District of the Union. Salary £62 per annum, with the usual extra fees for midwifery, &c. Also to act as Public Vaccinator for the District at such fees as may be arranged. Applications to the Clerk, East Grinstead.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Junior House Surgeon for six months. Board, washing, and lodging in the hospital provided.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Surgeon for six months. Unmarried. Salary £20, with board and residence in the hospital. Also House Physician for six months. Salary £20, with board and residence in the hospital. Also Assistant Surgeon.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrarship. Salary £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer for the Convalescent Hospital at Cheadle for twelve months, unmarried. Salary £150, with board and residence.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer for the Western Fever Hospital, Seagrave-road, Fulham, S.W., unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing, subject to statutory deduction. Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

METROPOLITAN HOSPITAL, Kingsland-road, N.E. — Anæsthetist. Honorarium 25 guineas per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants for one year at least. Salary £120 for first year and £150 afterwards.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and washing. Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—Assistant House Surgeon for six months. Board, apartments, and washing provided.

NORTHUMBERLAND COUNTY ASYLUM, Morpeth.—Assistant Medical Officer, unmarried. Salary £125 per annum, rising £10 yearly to £155, with board, lodging, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—Resident Medical Officer for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing.

SAINT MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London.—Honorary Surgeon. Also Honorary Assistant Surgeon.

ST. GEORGE'S HOSPITAL, London, S.W.—Physician and Assistant Physician.

ST. THOMAS'S HOSPITAL, London, S.E.—Assistant Physician.

SCHOOL BOARD FOR LONDON.—Lectures to Teachers on Voice Production, with particular reference to the use of the Speaking Voice and to the Cause of Laryngitis. Four lectures to constitute a series. Applications to the Clerk to the Board, Victoria-embankment, W.C.

SEAMEN'S HOSPITAL SOCIETY (*Dreadnought*), Greenwich.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £50 per annum, with board and residence.

SHEFFIELD ROYAL HOSPITAL.—Resident Junior Assistant House Surgeon. Salary £50 per annum, with board and washing.

TIVERTON INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser for two years, unmarried. Salary £105 per annum, with lodgings, attendance, fire, and lights.

WEST BROMWICH DISTRICT HOSPITAL. — Resident Assistant House Surgeon for six months. Gratuity £20, and board, lodging, and washing in the hospital.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £150 a year, with furnished apartments, coals, and gas.

Births, Marriages, and Deaths.

BIRTHS.

FRANCIS.—On Oct. 29th, at Arnold, Notts, the wife of Harvey Francis, M.B., M.R.C.S., of a son.

HAYTHORNE.—On Oct. 29th, at Hazelmere, Aigburth-road, Liverpool, the wife of T. J. S. Haythorne, M.D., of a son.

MACGREGOR.—On Oct. 21st, at Camden-square, N.W., the wife of Duncan Otto Macgregor, M.B., of a daughter.

VACHER.—On Nov. 1st, at Glanmor, Shrewsbury-road, Birkenhead, the wife of F. Vacher, F.R.C.S. Edin., of a son.

VOELCKER.—On Oct. 26th, at Harley-street, the wife of Arthur Francis Voelcker, M.D., F.R.C.P., of a son.

WINTER.—On Oct. 25th, at Chartham, near Canterbury, the wife of Laurence A. Winter, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

HERBERT—SYKES.—On Oct. 26th, at St. Stephen's and All Martyrs, Darcy Lever, Bolton, by the Rev. H. J. Adams, M.A., Vicar, William Herbert, M.R.C.S., L.R.C.P., Richmond, Surrey, to Lucy Gertrude, daughter of Thomas Sykes, Esq., The Haulgh, Bolton, Lancs.

LAWSON—MORRIS.—On Oct. 13th, at the Church of the Ascension, Balham-hill, by the Rev. H. Curtis, M.A., Vicar, assisted by the Rev. J. R. Seaton, M.A., Vice-Principal of the Clergy School, Leeds, Richard Lawson, M.R.C.S., L.R.C.P. Lond., of 1, Marius-road, Balham, younger son of the late Thomas Lawson, of Leeds, to Cecile Violet, daughter of F. H. Morris, of 12, Abbeville-road, Clapham, S.W.

METCALFE—HOOD.—On Thursday, Oct. 27th, at the Church of St. Mary, Castlegate, York, by the Rev. H. Vyvyan, M.A., Rector, assisted by the Rev. W. K. Wyley, M.A., and Rev. A. J. Chambers, M.A., Alfred Waugh Metcalfe, M.A., M.D. Cantab., only son of R. Metcalfe, M.D., Leyburn, North Yorks, to Amy Louise Bower, only daughter of W. Hood, M.R.C.S., Castlegate House, York.

DEATH.

WHITBY.—On Oct. 23rd, at Harlesden, Robert Whitby, M.R.C.S., aged 80.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat Hospital (2 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.), Royal Ear Hospital (3 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex, (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

SATURDAY (12th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.), London Throat Hospital (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (7th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN. 8 P.M. Introductory Address by the President. Mr. Storer Bennett: Ankylosis of Human Teeth to the Jaws.

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. St. Clair Thomson: Cerebro-spinal Fluid from the Nose Escaping Spontaneously. Full report of one case and a consideration of twenty others occurring in literature, most of them with cerebral symptoms and some with retinal changes. (A patient exhibiting this condition will be shown, and will be in the rooms of the Society from 8 P.M.)

WEDNESDAY (9th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Ordinary meeting. 8.30 P.M. Special meeting. Dr. Walter G. Smith (Dublin): Pityriasis Rubra.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus).—8.30 P.M. A discussion on the Antitoxin Treatment of Diphtheria will be opened by Dr. Goodall and Dr. Washbourn.

THURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens will be shown by Dr. Macpherson Laurie, Dr. Purcell, Mr. Tenison Collins, and Mr. C. Ryall. Adjourned discussion of Mr. Christopher Martin's paper: "On some Moot Points in the After-treatment of cases of Abdominal Section. Mr. Stanmore Bishop: Combined Abdominal and Vaginal Section in cases of Pelvic Surgery.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Card Specimens. 8.30 P.M. Papers: — Mr. Priestley Smith: Suggested Explanation of Tscherning's Observations in Accordance with the Accommodation Theory of Helmholtz.—Mr. Arnold Lawson: Tumour of the Optic Nerve Sheath.

FRIDAY (11th).—CHARITY ORGANISATION SOCIETY (Portman Rooms, Baker-street, W.).—4.30 P.M. Dr. T. D. Savill: The Poor-Law Infirmary. (Course of Lectures on Medical Relief.)

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Mr. Howard Marsh: Sarcoma of the Synovial Membrane of the Knee-joint.—Dr. Newton Pitt: Hyperpyrexia in cases of Pulmonary Disease.—Mr. Clement Lucas: A Case in which Twenty-seven and a Half Inches of the Bowel were Removed by Murphy's Button.—Mr. Arbuthnot Lane: Two Cases of Deficiency of the Ulna Treated Successfully by the Insertion of a Rabbit's Femur.—Mr. Campbell Williams: Lingual Chancre from Indirect Contagion, which tends to show that Syphilitic Virus can remain active in the dried state for over two months.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (7th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 3 P.M., Dr. Whistler: Syphilis as it Affects the Larynx.

TUESDAY (8th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Dr. Ormerod: Muscular Atrophy.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Cases of Muscular Tremor.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. P. Abraham: Seborrhœa.—Bethlem Hospital, 2 P.M., Dr. Craig: Alcoholic Insanity; Insanity with Syphilis; Insanity with Organic Brain Disease.

WEDNESDAY (9th).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Acland: Cases illustrating Types of Tuberculosis, with special reference to Diagnosis and Prognosis.
LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Sanitary Appliances.
WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. A. Whitfield: Methods of Examining the Blood.
THURSDAY (10th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. W. M. Ord: Myxœdema and Allied Conditions. (Bradshaw Lecture.)
LONDON POST-GRADUATE COURSE.—Central London Sick Asylum Cleveland-st., W., 5.30 P.M., Mr. Golding Bird: Clinical Lecture.
LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.
CHARING-CROSS HOSPITAL.—4 P.M. Dr. Green: Cases in the Wards. (Post-Graduate Class.)
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow: Clinical Lecture on Demonstration of Recent Specimens.
FRIDAY (11th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Actinomycosis and Glanders.
WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. A. Whitfield: Methods of Examining the Blood.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

***Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.**

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

THE IRELAND FUND: A LETTER OF THANKS.

WE publish the following letter with pleasure:—"Mrs. John Ireland and Mrs. Stanley Brown beg to acknowledge with many thanks the great kindness of the proprietors of THE LANCET and other donors to the fund for the Misses Ireland (daughters of a medical man). The fund was closed last September; it amounts to £215 4s. On Sept. 27th an annuity was purchased with £100 producing £8 per annum. The other £100 is deposited in the Queen Victoria-street Building Society at 4 per cent., where it will remain till Miss J. J. Ireland attains the age of sixty years, when it will be withdrawn to purchase a joint annuity of £6 per annum."

"WANTED DIAGNOSIS AND TREATMENT."

To the Editors of THE LANCET.

SIRS,—Your correspondent, "L. M.," who wrote in THE LANCET of Sept. 24th under the above heading, suffers from what I—also at his age—suffer, and fortunate he is that his forced abstention from work is of one day and not three. I believe that the stomach in my case is at such times flaccid and dilated, that I suffer from inertia and ectasia, and that this is passing, for in the interval appetite and digestion are good. A distinct splash can be elicited, especially on those occasions when fluid is in the stomach and, I regret to say, often at other times after a fluid meal, but rarely, I believe, unless I am headachy—i.e., threatened with an attack. The pathology of this thing has come to be, to my mind, "neurasthenia." The attacks are precipitated often by a railway journey, and I have found of late that a course of resisted exercises—self-resisted, such as have been described in your volumes so often as a part of the Nauheim treatment for certain diseases of the heart—has seemed to render me more resistant, to lengthen the interval and shorten the duration of the attacks. I would also mention that I have for years taken every morning on rising, and I believe with benefit, a very hot sponge or shower bath of, say, one minute, followed by a decidedly cold shower lasting as long as in my judgment it may, and I come out of it with good reaction and without chill. Drugs I have found useless. Such a bath taken when the attack is threatened in early morning and followed by abstinence for a few hours will often succeed in warding it off. Fluids should be taboo at meals unless mere sips. Let the fluid ingestion be done an hour or two before meals and be of good cool water. In my own case a scantiness of urine an an inactivity of the bowels are further indications of the gastrectasic tendency and the weak absorptive power of the stomach.

I am, Sirs, yours faithfully,
October, 1898. G. C. L

A MICROBE-PROOF HOUSE.

WE extract the following from the *Leeds Hospital Magazine*:—

> "The oddest domicile on earth is that recently erected at Yokohama by an eminent German bacteriologist. It is a microbe-proof house, built of glass blocks. There are no window-sashes and the doors, when closed, are air-tight. The air-supply is forced into the room through a pipe and filtered through cotton-wool to cleanse it of bacteria. To ensure further sterilisation the air is driven against a glycerine-coated plate of glass, which captures all the microbes the wool spares. The few microbes brought into the house in the clothes of visitors soon die in the warm sunlight with which the house is flooded. The space between the glass blocks, of which the house is built, is filled with a solution of salts which absorbs the heat of the sun, so that the rooms are much cooler than those protected by the thickest shades. In the evening the interior is heated by the salts radiating the heat they have absorbed during the day."

DIFFICULTIES UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT.

To the Editors of THE LANCET.

SIRS,—I was recently called to see a child suffering from diphtheria and notified the case forthwith. On my next seeing the child I found the patient much worse and I gave an unfavourable prognosis. At the same time I learnt that the medical officer of health had called and expressed doubts as to the correctness of my diagnosis and suggested that the child was suffering from bronchitis. The following day I received a letter from the father dispensing with my further services and informing me that the medical officer of health had undertaken the case himself. I learnt subsequently that the child soon died and that the cause of death was certified by the medical officer of health to be diphtheria. I should be glad if you would comment on the above case, and any suggestions by which I might obtain redress would be most thankfully received by,

Yours faithfully,
D.P.H. LOND.

To the Editors of THE LANCET.

SIRS,—The following are the facts of a case which occurred in my practice during the week and I shall be glad to have your opinion as to whether the medical officer of health was within his rights or not.

I have a case under observation, but not yet reported, of suspected typhoid fever. The medical officer of health, having heard of the case, called at the house and asked to be allowed to examine the patient. This the mother of the patient would not allow, as she told him she had a medical man of her own in attendance. I have had no communication from the medical officer of health of his having tried to visit the patient, but learned the above facts from the mother of the patient next day.

I am, Sirs, yours faithfully,
Oct. 29th, 1898. SCOTLAND.

*** We recommend our correspondents to read our pamphlet entitled, "Difficulties under the Infectious Diseases Notification Act." It is unfortunate, but inevitable, that the provisions of the Act occasionally place the official in a difficult position with regard to the private practitioner. We can only advocate mutual forbearance. "D.P.H. Lond." should send a full account of the case, properly substantiated, to the Local Government Board. "Scotland," we think, should write to the medical officer of health offering to give him assistance and to see the patient with him if he is in doubt as to the diagnosis.—ED. L.

"A PLAN AND PLEA FOR NATIONAL MEDICINE."

WE have received a pamphlet bearing the above title. The author is H. L. Garbett, of the Peculiar People. Mr. Garbett's works cover a wide range. For instance, he has written a paper, which costs 3*d.*, entitled "Bishops in Victoria's Time Only Idolaters," and another rejoicing in the name, "3130 Grounds for Holding that Satan Inspires Our Clergy." This latter can be obtained for the sum of 1*d.* "A Plan and Plea for National Medicine" starts on the assumption that "we can see nothing but a work of the devil in the way they [i.e., surgeons] have been paid hitherto

in Christendom." This is a statement with which many a hard worked medical man will cordially agree. Mr. Garbett's method for obviating these painful circumstances is not very clear, but as far as we can understand it is as follows: there is to be an ante-natal tax upon births, which will bring in £360,924 per annum. This sum divided among all the medical men in the British Isles would give every practitioner £463 per annum nearly. Mr. Garbett does not approve of Christian Science, for he says Mrs. Eddy exhibits a painful ignorance of the true meaning of 666, a fact which, "in my opinion, utterly demolishes their claims." Should any of our readers feel inclined to study this production further it can be obtained from William Reeves, 185, Fleet-street, for the small sum of 3*d*.

ENTERIC FEVER SPREAD BY A POTATO-SALAD.

FOR the following somewhat remarkable story a French newspaper named *l'Evénement* is responsible. A battalion of infantry quartered at Saarbruck having been decimated by enteric fever Dr. von Coler, the medical inspector-general of the division, was ordered to investigate the matter and if possible ascertain the cause of the epidemic. He accordingly made a close inquiry and at length came to the conclusion that the disease was due to a potato-salad. It seems that in honour of some festival or other the soldiers of the infected battalion were treated to this salad, which probably was more succulent than its name indicates, and that the preparation of the dish was entrusted to a man who had not taken the ordinary precaution of washing his hands beforehand, although (curiously enough) it had just been another part of his duty to empty a latrine bucket. The whole of the men who partook of the poisonous compound, to the number of 300, are said to have fallen ill soon afterwards, whereas their comrades on leave that day, and also the non-commissioned officers who messed apart, remained perfectly well.

LEPERS IN HAMBURG.

AT a meeting of the Hamburg Medical Society held on March 1st and reported in the *Deutsche Medicinische Wochenschrift* of Oct. 27th, Dr. Reincke said that 17 lepers (15 men and 2 women) have been discovered in the town since the first inquiry made in 1896. Of these 11 incurred the disease in Brazil, 2 in Honolulu, and 1 each in Surinam, Mexico, Penang, and the Philippine Islands. 8 were born in Germany, 4 in Portugal, 2 in Brazil, and 1 each in Mexico, Sumatra, and England. Since the inquiry 3 have died, 4 have left Hamburg, and no fresh case has arrived. An increase in the number is not probable at present, as patients are attracted by Dr. Carasquilla's serum treatment in Bogota. The regulations relative to lepers include compulsory notification and supervision by the medical officer of health, who has to visit them half-yearly in company with the medical man who attends them. Lepers may mingle with the public as long as the symptoms are mild and there are no discharges containing bacilli. In other cases they must either enter a leper hospital or submit to a number of restrictions in their own homes.

ROENTGEN RAY SCREENS.

MR. HENRY A. KENT, of 59, Myddelton-road, Bowes-park, N., writes: – "The use of a screen in some operations, such, for example, as bullet-extracting, has many advantages. It, however, occurred to me that a more simple and effective method might be the following. The mineral 'Willimite' crushed and passed through a 90 or 100 hole sieve gives a powder which is fairly good for screen work. This powder should be mixed with gum-water and glycerine (or any antiseptic medium) into a paint about the consistency of cream. By painting the parts under operation very good definition is thus obtained."

ANTI-VIVISECTIONISTS AT BRADFORD.

DURING the progress of the Church Congress at Bradford the Church Anti-vivisection League held a meeting upon which we commented in our issue of Oct. 15th. In our annotation, which was headed "Anti-vivisectionists at Bradford," we said that we had applied to Miss A. L. Woodward, whom we wrongly called the Secretary, she being as a fact the Honorary Assistant Secretary, for information as to the objects of the League; that we had received no reply, and that therefore we thought the Church Anti-vivisection League must be one of the secret societies in the Church recently mentioned in the *Times*. Since the publication of these remarks Miss A. L. Woodward has sent us the reports of the League from 1894 to 1898, some quotations from Cornelius a Lapide, a leaflet called "The Ethics of Vivisection" by the Rev. T. P. Ring, and a lecture called "Man's Relation to the Lower Animals Viewed from the Christian Standpoint." The author's name is not given, but the lecture is published by the League. Our view of the unsound attitude of the League has undergone no change, but we are quite ready to allow that it is not a secret society.

"THE EXCLUSION OF INFECTION FROM SCHOOLS."

A CORRESPONDENT signing himself "A True Briton," and referring to a letter under the above title which appeared in THE LANCET of Oct. 15th, informs us that he has known of cases where in consequence of proprietary schoolmasters letting their houses during the vacations the tenants introduced the infection of "mumps, scarlet fever, measles, whatnot," and the pupils returning at the beginning of the school term contracted these diseases through that unsuspected channel.

A STOUT NEGRESS.

THE *Philadelphia Polyclinic* of Sept. 17th states that Mrs. Mary Mazique, said to be the largest coloured woman in the world, died at Little Rock, Arkansas, on Sept. 7th, aged thirty years. She is said to have weighed at one time over 700 lb., or 50 st., and at the time of her death, 560 lb.

"BARKOO ROT."

To the Editors of THE LANCET.

SIRS,—Allow me to supplement Mr. Eustace Barton's letter in THE LANCET of Oct. 29th on Barcoo rot. During many years residence in Queensland I necessarily saw much of this complaint. Mr. Barton's description coincides with my own observations, but I am quite sure that it is not a constitutional affection, but a purely local one. Certainly local remedies applied in the usual way have no influence on the progress of the disease for the simple reason that on account of the thick scabbing they fail to reach its seat. If, however, Volkmann's spoon be freely used until healthy vascular tissue is reached any mild antiseptic will effect a cure in a few days. Of course, many of these patients are run down and suffering from want of proper diet, &c., and for such no doubt iron is an excellent remedy. The majority, however, are otherwise perfectly healthy.

I am, Sirs, yours faithfully,

F. E. HARE, M.D.,

Oct. 31st, 1898. Late Resident Medical Officer, Brisbane Hospital.

Ixal (Banbury).—Each procedure is correct, but a combination of the two would not come well from one person. As L.S.A. he has qualified in medicine; possessing the M.R.C.S. he does not need to append any other diploma to his name when signing it officially; but if he desires to announce to the public that he has a medical qualification, why conceal the source of his qualification? An L.S.A. is not, in our opinion, entitled to call himself a physician.

A. G. S.—(1) As a rule, No. Attendance at particular classes might be allowed to count, but the matter would be one for the Dean of the British medical school and perhaps the General Medical Council to decide upon. (2) A list of the registrable degrees will be found in the Medical Register, as well as the conditions under which they are registrable. Only persons whose names are on the Register have a legal status as practitioners.

Dr. Alexander Wallace.—Some of the points alluded to by our correspondent were certainly before the jury. We do not think the justice of the verdict can be questioned, and the convict has now been reprieved.

Puzzled.—The lady should apply to the Royal Pharmaceutical Society.

Volunteer.—The method of style we have adopted is correct.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 3rd, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 28	29·94	S.W.	...	91	63	54	53	55	Cloudy
,, 29	29·70	S.W.	0·86	73	62	53	57	59	Overcast
,, 30	29·36	S.W.	0·30	90	58	48	49	52	Cloudy
,, 31	29·59	W.	...	89	60	48	48	50	Cloudy
Nov. 1	29·94	N.W.	...	75	55	40	40	41	Hazy
,, 2	29·91	S.W.	0·26	61	61	41	52	54	Cloudy
,, 3	29·65	S.W.	...	67	62	54	58	59	Overcast

During the week marked copies of the following newspapers have been received: *Sussex Daily News, Boston Independent, Manchester Guardian, Leicester Post, Pioneer Mail, Times of India, Bedford Advertiser, Warwick Times, Sheffield Telegraph, Scotsman, Builder, Southern Times, Royal Cornwall Gazette, Yorkshire Post, Architect, Birmingham Mail, Western Gazette, Luton Reporter, Walsall Advertiser, Liverpool Daily Post, Worcester Echo, Eastern Morning News, Dundee Advertiser, North Wales Chronicle, Bristol Mercury, Midland Counties Express, Somerset County Herald, Bradford Observer, Leeds Mercury, Citizen, Morning Leader, Hampshire Telegraph, Portsmouth Times, Hastings Independent, Brighton Gazette, Daily News, Batley News, Sanitary Record, Hertfordshire Mercury, Mining Journal, Reading Mercury, City Press, Local Government Journal, Surrey Advertiser, Macclesfield Courier and Herald, Taunton Echo, Hull Daily Mail, Le Temps (Paris), Weekly Free Press and Aberdeen Herald, Local Government Chronicle, Australasian Medical Gazette, Fife Free Press, Oban Times, Isle of Ely Advertiser, Morecambe Times, Malton Gazette, Pontefract Express, Public Health, Hornsea Gazette, Gravesend and Dartford Reporter, Deal Chronicle, &c., &c.*

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D.—*Dursley Gazette*, Publisher of.

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